2009 University of Rhode Island Combined Research and Extension Plan of Work

Status: Accepted
Date Accepted: 07/10/08

I. Plan Overview

1. Brief Summary about Plan Of Work

In this plan we describe the proposed activities of the Rhode Island Agricultural Experiment Station (RI AES) and Rhode Island Cooperative Extension (RI CE) collectively referred to as the Land Grant programs. RI AES and RI CE are collaborative elements within the College of the Environment and Life Sciences (CELS) at the University. Administrative oversight of RIAES and RICE is provided by the Dean of CELS. Day to day management of the Land Grant programs is provided by the Associate Dean, Research and Outreach. The programs and projects supported within the research and outreach portfolios span a wide range of disciplines, from the natural sciences to the social sciences and use great breadth in approach. The Land Grant portfolio will be focused around 14 programs that include: 1) Food Safety; 2) Nutrition, Health and Obesity Prevention; 3) Food Insecurity and Nutrition in Vulnerable Populations; 4) Children, 4-H and Families; 5) Sustainable Communities; 6) Vector Borne Diseases and Human Health; 7) Aquaculture Biotechnology; 8) Water Quality; 9) Forestry and Wildlife; 10) Community Gardening and Outreach; 11) Health and Well-being of Livestock; 12) Horticulture and the Reduction of Pests and Disease Outbreaks in Plants;13) Natural and Environmental Economics, Markets and Policy; and 14) College of the Environment and Life Sciences Community Access to Research and Extension Services (CELS CARES).

The Station and Extension are integral components of the missions of the College and University. The collaborative relationship with our federal partner, CSREES, has enabled our scientists, staff and students to leverage additional resources that provide cutting edge knowledge, new results, essential services and desirable programming for all Rhode Islanders.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2009	28.6	0.0	28.6	0.0
2010	29.1	0.0	28.6	0.0
2011	30.1	0.0	28.6	0.0
2012	30.1	0.0	28.6	0.0
2013	30.1	0.0	28.6	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

- Internal University Panel
- External University Panel
- External Non-University Panel
- Expert Peer Review

2. Brief Explanation

Stakeholder input has lead to the establishment of AES and CE priority planned programs, as outlined herein. The following processes are used to select the proposed projects to be supported by the Station or Extension.

The Director uses the AES/CE Program Leader Team to establish annual funding priorities for projects. The Station and

Extension issue an annual request for proposals, stating funding limits and current program priorities. Station projects (and, where relevant, Extension projects) are subject to screening to establish relevancy to current program objectives.

Projects are also assessed for merit. Project merit depends on goodness of fit to program priorities, and on peer review. General criteria for project merit include:

• Is the project an appropriate match to strengths of our faculty, staff, and facilities?

• Is the project's level of sophistication worthy of a major university?

• Is the project best conducted by the University (i.e., AES or CE), or is another agent of the government or the private sector more suitable?

Projects judged to merit support are also weighed against the record of the project author in previous efforts ("what were the outcomes?") and in efforts to secure additional external funds through established granting agencies (e.g., government or private foundations.) Were the AES/CE funds used effectively to leverage new funds to support the project? Priority is given to proposals that enhance research or outreach capacity or to proposals that provide continuity for Station or Extension projects largely supported by competitive funding.

Projects that are multi-state (where the reasons for multi-state collaboration are sound), integrated (research-based with clear relation to public good outcomes appropriate for outreach), and team oriented (multi-disciplinary, as appropriate) are also given priority.

All projects that are approved under the above merit review are informed that they have passed the merit review. Those that are rejected on the basis of a lack of merit are given a written explanation from the Director, with (when appropriate) suggestions for modification for resubmission.

Last, the Director has the option of providing support for capacity-building projects (i.e., preliminary research studies of limited duration) intended to explore potential new program directions.

RI AES has in place a process that employs "Peer and Merit Reviews." That is, we employ both internal and external reviewers (assigned by the Director) to evaluate the scientific and technical soundness of proposed research. Specifically, we ask a minimum of three reviewers to assess each proposed project and to respond to six questions:

• Does the proposal hold promise of making a significant contribution to science, technology, or human well-being sufficient to warrant the proposed investment of time and effort?

• Does the proposal demonstrate adequate familiarity with the work of previous and contemporary investigators working in closely related areas?

• Are the objectives clear?

• Is the approach to the investigation, outlined in methods, clear and appropriate to meet the objectives?

• Is (are) the principal investigator(s) and specified members of the research team qualified to conduct the research?

• Are the facilities and equipment (existing or proposed, as described in the proposal) of the Rhode Island Agricultural Experiment Station adequate for the PI to perform the proposed research?

Reviewer's comments are made available to the proposal principal investigator except in unusual circumstances. Reviewers are also asked for any additional comments that they deem relevant.

III. Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

All multistate and joint activities will address critical issues of strategic importance including those identified by the stakeholders. This supposition is also supported by the rigors of our merit review process and the rigors of the merit review process associated with prior approval of ongoing multi-state projects that are part of this Plan of Work.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

When appropriate, multi and joint projects will focus on under-served, vulnerable and minority populations. These groups are identified in the audiences described by the Planned Programs herein.

3. How will the planned programs describe the expected outcomes and impacts?

The long-term impact of these multi-state projects are to address salient and emerging issues of direct relevance to the quality of life of all Rhode Islanders. The priority programs in this plan are expected to improve personal health, improve the quality of fresh and marine waters, improve food access, promote sustainable communities, promote leadership and healthful lifestyles for youth, improve the health and well-being of agricultural important livestock, reduce the incidence of vector borne diseases, promote economic vitality, preserve the land and adopt sustainable agricultural practices.

4. How will the planned programs result in improved program effectiveness and/or efficiency?

All of the multi and joint programs are fundamentally collaborative both within and outside of the University of Rhode Island. Rather than competing for resources, the programs embrace a philosophy of shared abundance and exploit the synergies of the intellectual and physical resources of all research and outreach partners.

IV. Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation

- Survey specifically with non-traditional individuals
- Targeted invitation to selected individuals from general public
- Targeted invitation to non-traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Survey of traditional stakeholder groups
- Use of media to announce public meetings and listening sessions
- Survey specifically with non-traditional groups
- Survey of selected individuals from the general public
- Survey of the general public
- Targeted invitation to traditional stakeholder groups

Brief explanation.

The Multi-state and joint projects use a variety of participatory research techniques to assess, prioritize and connect target audiences with our initiatives, programs, research and outreach.

2(A). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use External Focus Groups
- Open Listening Sessions
- Use Advisory Committees
- Use Internal Focus Groups
- Needs Assessments
- Use Surveys

Brief explanation.

The different program areas use different methods to secure stakeholder input. Collectively, the list above represents the range of methods used to secure suggestions from external audiences.

2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting specifically with non-traditional individuals
- Survey of selected individuals from the general public
- Survey of traditional Stakeholder groups
- Survey of the general public
- Survey of traditional Stakeholder individuals
- Survey specifically with non-traditional groups
- Meeting with traditional Stakeholder individuals
- Meeting specifically with non-traditional groups
- Meeting with invited selected individuals from the general public
- Meeting with the general public (open meeting advertised to all)
- Survey specifically with non-traditional individuals
- Meeting with traditional Stakeholder groups

Brief explanation

A variety of different methods are used to collect input from stakeholder groups.

3. A statement of how the input will be considered

- Redirect Research Programs
- In the Staff Hiring Process
- Redirect Extension Programs
- To Set Priorities
- In the Action Plans
- In the Budget Process
- To Identify Emerging Issues

Brief explanation.

Input is collected from external audiences and assessed. Emerging issues as well as continuing needs serves to drive priority setting, action plans, budgeting and resource allocation.

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program #1

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

A secure food system is one that prevents contamination of food by any source, as well as facilitates a predictable and steady supply of high quality and safe foods. There is a need for food safety information throughout the diverse Rhode Island community of educators, consumers, food service workers, food industry personnel and processors, and commercial fruit and vegetable growers. Federal and state regulations mandate specific training that promotes compliance in the RI food industry. Program expertise will continue to provide regional support for a variety of educational activities. Significant funding has been secured to continue to support food safety initiates across the state. This includes research, training and outreach relevant to the public and industry.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
711	Ensure Food Products Free of Harmful Chemicals, Including Residue	50%		50%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The Food Safety priorities for the State of Rhode Island will be to continue to implement HACCP training for Rhode Island School Food Service operations and residential childcare facilities, to provide HACCP and sanitation education to seafood, juice/cider and meat/poultry processors , to present an annual food safety conference for public and private stakeholders, maintain a Good Agricultural Practices Program for commercial growers of fruits and vegetables, to provide GAP for homeowners using the Master Gardener Program as a method of delivery, to maintain the RI Food Safety Certification and Recertification courses targeting food service establishments, and to develop internet-based training for GMP and personal hygiene for processors and warehouses. Additionally, food safety education will be on-going for K-12 teachers, healthcare professionals and consumers.

2. Scope of the Program

- In-State Research
- Integrated Research and Extension
- In-State Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The State of Rhode Island Department of Health will continue to partner with the College of the Environment and Life Sciences /University on these efforts. Food safety specialists will serve as catalysts for systems changes in schools, on farms and in industry around standards for food safety.

2. Ultimate goal(s) of this Program

To reduce food borne illness and control food hazards within public and private sectors.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	1.8	0.0	0.0	0.0
2010	1.8	0.0	0.0	0.0
2011	1.8	0.0	0.0	0.0
2012	1.8	0.0	0.0	0.0
2013	1.8	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Continue to implement HACCP training for RI school food service operations
•Provide HACCP and sanitation education programs to a variety of food processors
•Host an annual Food Safety Conference for public and private stakeholders
•Maintain a Good Agricultural Practices (GAP) Program for commercial growers of fruit and vegetables
•Maintain RI Food Safety Manager courses
•Develop internet-based training on Food Safety issues
•Develop Food Safety Curriculum materials for Special Needs students (ages 16-21)

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Other 1 (Volunteer Training) • Education Class • Demonstrations • Workshop	• Newsletters • Web sites

3. Description of targeted audience

Food industry and food service workers and managers, food processors, consumers, agricultural producers, home gardeners, school administrators, school-aged children and their caregivers, special needs students, teachers, community volunteers, Master Gardener volunteers.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	350	1000	0	1500
2010	350	1000	0	1500
2011	350	1000	0	1500
2012	350	1000	0	1500
2013	350	1000	0	1500

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	2	0	2
2010	1	0	1
2011	1	0	1
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer Reviewed Publications

  2009 :2 **2010 :**1 **2011 :** 1 **2012 :**0 **2013 :**0

- Abstracts

  2009 :1 **2010 :**1 **2011 :** 1 **2012 :**1 **2013 :**1

- Professional Training Sessions (educators, farmers, food industry and food service personnel)

  2009 :15 **2010 :**15 **2011 :** 15 **2012 :**15 **2013 :**15

- Volunteer Training

  2009 :5 **2010 :**5 **2011 :** 5 **2012 :**5 **2013 :**0

- Conferences Hosted

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- School Based Training Sessions (teachers and children)

2009 : 2 **2010 :** 2 **2011 :** 1 **2012 :** 0 **2013 :** 0

- Website Development and Refinement

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Student training

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

V(I). State Defined Outcome

O. No	Outcome Name
1	Commercial growers of fruit and vegetables, food industry producers and school personnel will participate in appropriately directed food safety training (# of people trained)
2	Implement the internet based training for Good Manufacturing Practices(GMP)and personal hygiene for processors and warehouses. As a member of a regional team (# of training sessions)
3	Formulate new approaches to food safety education for consumers, schools and the food industry in Rhode Island
4	Develop, implement and evaluate new health and food safety training and resource materials for targeted audiences such as consumers, educators, food industry personnel and health care providers (# of new programs).

Outcome #1

1. Outcome Target

Commercial growers of fruit and vegetables, food industry producers and school personnel will participate in appropriately directed food safety training (# of people trained)

2. Outcome Type : Change in Knowledge Outcome Measure

2009 : 140	**2010 :** 140	**2011 :** 125	**2012 :** 125	**2013 :** 125

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

Outcome #2

1. Outcome Target

Implement the internet based training for Good Manufacturing Practices(GMP)and personal hygiene for processors and warehouses. As a member of a regional team (# of training sessions)

2. Outcome Type : Change in Action Outcome Measure

2009 : 2	**2010 :** 0	**2011 :** 0	**2012 :** 0	**2013 :** 0

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

Outcome #3

1. Outcome Target

Formulate new approaches to food safety education for consumers, schools and the food industry in Rhode Island

2. Outcome Type : Change in Condition Outcome Measure

2009 : 2	**2010 :** 2	**2011 :** 2	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

Outcome #4

1. Outcome Target

Develop, implement and evaluate new health and food safety training and resource materials for targeted audiences such as consumers, educators, food industry personnel and health care providers (# of new programs).

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 711 - Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Government Regulations
- Competing Programatic Challenges
- Appropriations changes
- Populations changes (immigration,new cultural groupings,etc.)
- Economy
- Public Policy changes
- Competing Public priorities
- Natural Disasters (drought,weather extremes,etc.)
- Other (No funding)

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- Retrospective (post program)
- During (during program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Structured
- Observation
- Unstructured
- Journals
- Sampling
- Mail
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #2

1. Name of the Planned Program

Nutrition, Health and Obesity Prevention

2. Brief summary about Planned Program

Work under KA 702 will investigate lipoprotein metabolism & metabolic syndrome in young adults.

Work under KA 703 will reach low-income Latinos with nutrition information and effective interventions for weight management that are culturally sensitive.

Work with the City of Providence Public School system to develop curriculum for students (to be institutionalized within the school system) and provide teacher training related to obesity prevention

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Component	25%		25%	
703	Nutrition Education and Behavior	75%		75%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Obesity is an enormous public health issue for Americans of all ages. Like the nation, Rhode Island has experienced substantial increases in overweight and obesity among all groups of residents. Such increases have profound effects on our state's health care system, since obesity is strongly associated with several chronic diseases including type 2 diabetes, cardiovascular disease and asthma. According to NHANES data, 64% of U.S. adults exceed the "normal" range for BMI. In RI, 33% of adults are overweight and 17% of adults are considered obese; 25% of the state's children and adolescents are either overweight of obese, with minorities disproportionately affected. Additionally, adolescents from lower income families have an even greater prevalence of overweight when compared with white adolescents from higher income families. Improved eating habits and food related behaviors would have a significant impact on overweight and obesity. as for example, only about ¼ of the state's adult population consumes the minimum of five daily servings of fruits and vegetables.

Priorities in these knowledge areas will be to clarify the physiological role of lipoproteins in human health and to develop, test and refine culturally sensitive weight management interventions and materials for a Latino population.

2. Scope of the Program

- Integrated Research and Extension
- In-State Extension
- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding will be secured throughout the course of the projects.
People are open to learning about developing a healthy lifestyle.
Program participation will help clients maintain body weight.
Participants will change behaviors in order to achieve a healthy body weight and improve related health parameters.
Providence health and physical education teachers will use new curriculum

2. Ultimate goal(s) of this Program

To reduce the risk of overweight/obesity and the incidence of related diseases in Latino and low-income populations.
To clarify the role of lipoprotein metabolism and metabolic syndrome in human health.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	0.3	0.0	0.5	0.0
2010	0.3	0.0	0.5	0.0
2011	0.3	0.0	0.5	0.0
2012	0.3	0.0	0.5	0.0
2013	0.3	0.0	0.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

For KA 702:
•Data collection
•Fitness testing and body composition analysis
•Survey and questionnaire completion
•Blood analysis and dietary intake calculations
For KA 703:
•Facilitate partnership with Latino communities
•Develop curriculum and teacher training programs
•Conduct focus groups with Latinos
•Develop health and nutrition assessment tools that are appropriate for the Latino audience
•Develop and test interventional modalities for health maintenance and obesity prevention
•Conduct surveys
•Analyze data
•Print materials and develop curriculum
•Conduct workshops/interventions
•Evaluate outcomes

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Education Class • Workshop • One-on-One Intervention • Group Discussion	• Other 1 (Fact sheets, bulletins) • Web sites • Newsletters

3. Description of targeted audience

KA 702: Lean and obese adults
KA 703: Latino men and women; low-income school age children and families

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	400	0	500	0
2010	400	0	500	0
2011	400	0	500	0
2012	400	0	500	0
2013	400	0	500	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 : 0 **2010 :** 0 **2011 :** 0 **2012 :** 0 **2013 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	1	0	1
2011	1	0	1
2012	1	0	1
2013	1	0	1

V(H). State Defined Outputs

1. Output Target

- Develop and conduct healthy weight focus group research component

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

- Develop, conduct and evaluate a pilot healthy weight group study

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

- Refine, deliver and evaluate major healthy weight intervention study

2009 :1 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

- Conduct metabolic studies

2009 :1 **2010 :**1 **2011 :** 1 **2012 :**1 **2013 :**1

- Peer reviewed publications

2009 :2 **2010 :**1 **2011 :** 2 **2012 :**1 **2013 :**1

- Abstracts

2009 :2 **2010 :**2 **2011 :** 1 **2012 :**1 **2013 :**2

- Workshops

2009 :1 **2010 :**1 **2011 :** 1 **2012 :**1 **2013 :**1

- Student Training

2009 :3 **2010 :**3 **2011 :** 3 **2012 :**2 **2013 :**3

- Professional Training

2009 :1 **2010 :**1 **2011 :** 1 **2012 :**10 **2013 :**10

- Scientific and Professional Presentations

2009 :2 **2010 :**2 **2011 :** 1 **2012 :**2 **2013 :**2

- MS Thesis or PhD Dissertation

2009 :0 **2010 :**0 **2011 :** 1 **2012 :**1 **2013 :**2

V(I). State Defined Outcome

O. No	Outcome Name
1	Raise awareness and knowledge of healthy weight issues in the Latino population in Rhode Island (% change from baseline)
2	Increase maintenance of healthy weight among intervention participants (% achieving and maintaining healthy weight)
3	Increase understanding of lipoprotein metaolism and metabolic syndrome on human health in young adults.

Outcome #1

1. Outcome Target

Raise awareness and knowledge of healthy weight issues in the Latino population in Rhode Island (% change from baseline)

2. Outcome Type : Change in Action Outcome Measure

2009 :	**2010 :**	**2011 :**	**2012 :**	**2013 :**
20	20	20	20	20

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

Outcome #2

1. Outcome Target

Increase maintenance of healthy weight among intervention participants (% achieving and maintaining healthy weight)

2. Outcome Type : Change in Condition Outcome Measure

2009 :	**2010 :**	**2011 :**	**2012 :**	**2013 :**
20	25	25	25	30

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

Outcome #3

1. Outcome Target

Increase understanding of lipoprotein metaolism and metabolic syndrome on human health in young adults.

2. Outcome Type : Change in Action Outcome Measure

2009 :	**2010 :**	**2011 :**	**2012 :**	**2013 :**
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 702 - Requirements and Function of Nutrients and Other Food Components

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)
- Economy

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Comparisons between program participants (individuals,group,organizations) and non-participants
- During (during program)
- Comparison between locales where the program operates and sites without program intervention
- Retrospective (post program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Before-After (before and after program)
- Case Study

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Case Study
- Mail
- Telephone
- Structured
- Tests
- Sampling
- Observation
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #3

1. Name of the Planned Program

Food Insecurity and Nutrition in Vulnerable Populations

2. Brief summary about Planned Program

Vulnerable populations across the state of Rhode Island will be reached through the Expanded Food and Nutrition Education Program and the Rhode Island/URI Food Stamp Nutrition Education Program. This population will be reached through face to face nutrition education in the community (workshops, demonstrations), distance information transfer (newsletters, newspaper, home mailings, radio and other mass media), and through state-wide social marketing campaigns in nutrition.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	50%		50%	
704	Nutrition and Hunger in the Population	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The poverty rate in RI is 10.7% and Providence is the 4th poorest city in the U.S. Six percent of working families had incomes below the federal poverty level, giving RI the second highest rate of poverty in New England. Not surprisingly, the number of food stamp recipients has remained relatively constant at approximately 75,000. The need for nutrition education targeting economically disadvantaged families and older adults is greater than ever. It is the priority of the URI-RI Food Stamp Nutrition Education Initiative to assist households with limited resources in enhancing overall health through improved diet quality, resource management practices, shopping/budgeting skills and food safety practices. Intake of fruit and vegetables is markedly lower than Dietary Guideline recommendations and intakes are particularly low in the economically disadvantaged, those who live in urban areas and older adults (65+ years of age). Poor families have many disadvantages that lead to sub-optimal food choices and limited access to physical activity. RI EFNEP data suggest that only 2.8% of targeted populations consume a diet consistent with the Dietary Guidelines. The plan for EFNEP in the new Plan of Work is to reconfigure nutrition education delivery systems by introducing a vertical team model which includes traditional community para-professionals paired with graduate students from the Department of Nutrition and Food Sciences, and EFNEP Community Nutrition professionals and faculty.

2. Scope of the Program

- In-State Research
- In-State Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Funding for Food Stamp and EFNEP Nutrition Education will continue.
People will be motivated to learn and change.
Staff can be recruited and hired who possess the necessary skills and abilities.
Nutrition information leads to desired behavior change.
Community partnerships will be strengthened and expanded.

2. Ultimate goal(s) of this Program

To improve the diet quality, food security, food resource management and food safety practices of low-income Rhode Islanders and decrease health risk vulnerability.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	4.5	0.0	2.0	0.0
2010	5.0	0.0	2.0	0.0
2011	5.0	0.0	2.0	0.0
2012	5.0	0.0	2.0	0.0
2013	5.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Assess the diet quality of targeted low-income, vulnerable populations.
•Assess the food security status of targeted low-income, vulnerable populations.
•Assess the food resource management and food safety practices of the target audience.
•Develop and implement assessment tools, curriculum, print materials and social marketing campaigns.
•Evaluate the effectiveness of interventions and materials related to behavior change.
•Facilitate and strengthen community partnerships.
•Seek external funds to support program goals.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• One-on-One Intervention • Demonstrations • Workshop • Group Discussion • Education Class	• Newsletters • Web sites • Billboards • Public Service Announcement • Other 1 (Fact sheets, bulletins)

3. Description of targeted audience

Low-income, Food Stamp eligible and participating families, children and older adults.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	4000	100000	5000	10000
2010	4000	100000	5000	10000
2011	4000	100000	5000	10000
2012	4000	100000	5000	10000
2013	4000	100000	5000	10000

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :**0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	1	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2009 :1 **2010 :**1 **2011 :**1 **2012 :**0 **2013 :**0

- Abstracts

  2009 :1 **2010 :**1 **2011 :**1 **2012 :**1 **2013 :**1

- Scientific/Professional presentations

  2009 :1 **2010 :**1 **2011 :**1 **2012 :**1 **2013 :**1

- Website Development and Refinement

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Public Service Announcements and Social Marketing Campaigns

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 0

- Video Productions

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 0 **2013 :** 0

- Curriculum Development and Delivery

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Fact Sheets, Bulletins and Newsletters

2009 : 20 **2010 :** 20 **2011 :** 20 **2012 :** 20 **2013 :** 20

- Student Training

2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 4 **2013 :** 5

- Volunteer Training

2009 : 15 **2010 :** 20 **2011 :** 20 **2012 :** 20 **2013 :** 20

- Workshops and Programs

2009 : 120 **2010 :** 120 **2011 :** 120 **2012 :** 150 **2013 :** 150

- MS Thesis or PhD Dissertation

2009 : 1 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

V(I). State Defined Outcome

O. No	Outcome Name
1	25% of EFNEP and FSNE Families and Older Adults will improve dietary practices from baseline in one or more domains (diet quality, food security, food resource management, or food safety) thus reducing future risk of disease and improving health and quality of life (# representing 25%).

Outcome #1

1. Outcome Target

25% of EFNEP and FSNE Families and Older Adults will improve dietary practices from baseline in one or more domains (diet quality, food security, food resource management, or food safety) thus reducing future risk of disease and improving health and quality of life (# representing 25%).

2. Outcome Type : Change in Condition Outcome Measure

2009 : 1000	**2010 :** 1000	**2011 :** 1000	**2012 :** 1000	**2013 :** 1000

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Government Regulations
- Appropriations changes
- Public Policy changes
- Competing Programatic Challenges
- Economy
- Populations changes (immigration,new cultural groupings,etc.)
- Competing Public priorities

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Observation
- Structured
- Sampling
- Tests
- Unstructured
- Telephone
- On-Site
- Mail

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #4

1. Name of the Planned Program

Children, 4-H and Families

2. Brief summary about Planned Program

The Children, 4-H and Families (CFF) Program will target two primary audiences; Rhode Island youth (primarily but not limited to children 8-18 years of age) and their parents. The RI 4-H youth development component will align its educational efforts with the three national mission mandates: science, engineering and technology, healthy lifestyles and citizenship. Programming partnerships will be forged with other CE/AES program areas to insure that a broad spectrum of researched-based information, curriculums and academic-based learning opportunities are utilized in expanding the opportunities for RI youth "to learn how to think, plan and reason" thus empowering them with the knowledge, skills and abilities to achieve their academic and individual potential. The second educational component focuses on the family unit's well being through programs and researched-based information presented at the community level to 1) address family structures stressed by poverty, creating weakened environments for child rearing; 2) improve parenting skills and parent child relationships and 3) connect community-based, organizations serving at risk youth and families with land-grant-based educational resources, training and referrals. By working as a team, this program area will be able to extend its 4-H educational resources and learning opportunities to currently under-represented youth in at risk communities throughout the state while expanding the adult/family training opportunities to include parenting workshops for both volunteers and 4-H parents. In addition, the evaluation skills and measurement tools of the youth and families at risk specialists will provide the 4-H component with the necessary expertise to develop and implement measures for program outcomes. It is anticipated that revisions to this program's plan of work will be made following the completion of a new strategic plan that will result in a new vision, mission and business plan for restructuring the Children, 4-H and Families program area. In addition, the results of a CFF state-wide in-depth study (surveys and focus groups in both Spanish and English) targeting issues facing Rhode Island families (including education, financial, health and nutrition, parenting, etc.) will provide the framework and focus for program priorities in the 2007-2011 action plan.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	50%		50%	
806	Youth Development	50%		50%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Programming in Children, 4-H and Families (CFF) addresses a complex array of issues confronting Rhode Island families. The major challenge is in identifying where best to target limited CFF resources that will have a significant impact on key issues facing today's youth and families and result in measurable outcomes for these target audiences. Key issues impacting today's

families include: The number of children in poverty is increasing in all RI cities and towns; Family structures are stressed by poverty and a decreasing community connection creating weakened environments for child rearing. There is limited access to social programs for youth and families, and links between service providers and families are weak; Parents lack skills in teaching their children limits, how to avoid violence, cope with peer pressure and experimentation with destructive behaviors; Given the weak academic preparation provided by many of Rhode Island's inner-city schools, most of which are listed by the state as under-performing, there is a significant population of first-generation students at all levels of academic preparation whose skills will not be strong enough to ensure success in higher education and in a scientific workforce; Youth lack opportunities for involvement in positive outside-of-school social and educational programs that provide them with a safe, supportive environment for developing life skills and interacting with peers and positive adult role models.

The CFF program staff through diverse partnerships within and outside of the land grant system can serve as the catalyst and provide the integration of people and resources needed to address these critical issues facing Rhode Island's youth and families.

2. Scope of the Program

- In-State Extension
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Youth will gain valuable life skills and develop self-confidence in their ability to engage in the larger community and successfully make the transition into productive, contributing adults through positive life choices.

On going and caring relationships, both within and out side of the family are essential to positive youth development.

Through out-of-school learning opportunities in science and healthy lifestyles, youth will develop the knowledge, skills and self-directed ability to improve academic performance, set long-term career goals, refine leadership and decision-making skills and demonstrate the ability to make positive choices.

By connecting families to the educational resources of their land-grant institution and community-based organizations, parents will be empowered, through knowledge and improved parenting skills, to directly impact the health and well-being of their family members and community.

2. Ultimate goal(s) of this Program

Through collaboration and partnership, CFF will serve as the portal for Rhode Island families to connect with the vast research-based resources and educational opportunities of the land-grant institution resulting in improved youth and family health, life skills and emotional and academic well-being.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	7.0	0.0	0.0	0.0
2010	7.0	0.0	0.0	0.0
2011	7.0	0.0	0.0	0.0
2012	7.0	0.0	0.0	0.0
2013	7.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Forge academic connections to strengthen CFF curriculums, provide undergraduate experiential learning opportunities,

increase program research base and utilizes evaluation expertise to measure impacts and improve programs

•Connect target audience to CFF educational programs though workshops, web-based training and newsletters, 4-H volunteer training and curriculum guides (train the trainer), community-based agency trainings (train the trainer)

•Develop resources and information to connect youth and families to community and land-grant resources (CFF to serve as the portal)

•Expansion of the 4-H club system into currently underrepresented, urbanized areas of the state and creation of a state-wide network of 4-H science enrichment after school programs that serve as a catalyst for improve the science based knowledge, skills and academic motivation among urban elementary and middle school students

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Group Discussion • Education Class • Other 1 (4H Clubs/Groups) • One-on-One Intervention • Workshop	• Web sites • Newsletters • Other 2 (Web-based curriculum) • Other 1 (Factsheets)

3. Description of targeted audience

Youth 5-18 years of age
Parents of targeted youth
Community-based family-serving agencies and organizations
Volunteers

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	1000	3000	2500	4000
2010	1000	3000	3000	4000
2011	1000	3000	3000	4000
2012	1000	3000	3000	4000
2013	1000	3000	3000	4000

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :** 0 **2013 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Workshops

  2009 : 30 **2010 :** 30 **2011 :** 30 **2012 :** 30 **2013 :** 30

- Volunteer Training (number of new volunteers per year)

  2009 : 50 **2010 :** 50 **2011 :** 50 **2012 :** 50 **2013 :** 50

- 4-H Record Book Submissions

  2009 : 300 **2010 :** 300 **2011 :** 300 **2012 :** 300 **2013 :** 300

- Youth reached through programs

  2009 : 1000 **2010 :** 1000 **2011 :** 1000 **2012 :** 1000 **2013 :** 1000

- Number of community/family serving groups and organizations reached

  2009 : 25 **2010 :** 25 **2011 :** 25 **2012 :** 25 **2013 :** 25

- Number of referrals

  2009 : 100 **2010 :** 100 **2011 :** 100 **2012 :** 100 **2013 :** 100

- Community Service (# of projects per year)

  2009 : 50 **2010 :** 50 **2011 :** 50 **2012 :** 50 **2013 :** 50

- Activities and Programs (# per year)

  2009 : 25 **2010 :** 25 **2011 :** 25 **2012 :** 25 **2013 :** 25

- Student Training (# per year)

  2009 : 20 **2010 :** 20 **2011 :** 20 **2012 :** 20 **2013 :** 20

- Website development and refinement

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Curriculum development and delivery

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

V(I). State Defined Outcome

O. No	Outcome Name
1	Through project work and science and health enrichment programs, (%) 4-H club members and after school group members will demonstrate increased knowledge and skills that can be incorporated into their academic and personal lives.
2	% of enrolled 4-H youth who will demonstrate a commitment and understanding of their community and a sense of connectivity through increased delivery of community service programs to those in need.
3	Though training programs, club leadership activities and adult mentors, % of 4-H members who will develop leadership skills (e.g., public speaking, project leadership), gain confidence in their ability to lead and make a difference in their schools and communities and to incorporate these life skills into their daily lives.
4	% of parents, volunteers and adults serving youth and their families who will gain knowledge and skills that will foster positive youth development and family health and well-being.
5	% of parents who will learn and adopt more effective methods for parental discipline of children and better use of family time.
6	Through connecting to the vast land-grant system of resources and educational opportunities, % of parents and youth-serving adults who will gain knowledge and skills in risk reduction and adopt practices that promote health and safety within the family and community.
7	Pre-post measurement of educational activities, workshops to measure increases in knowledge and skills, focus groups and surveys to assess practice change and adoption, analysis of contact information and demographics to measure expansion of programs to currently underrepresented groups (urban, cultural-diverse communities, minorities, etc.) (Number of assessments per year)

Outcome #1

1. Outcome Target

Through project work and science and health enrichment programs, (%) 4-H club members and after school group members will demonstrate increased knowledge and skills that can be incorporated into their academic and personal lives.

2. Outcome Type : Change in Condition Outcome Measure

2009 : 35	**2010 :** 40	**2011 :** 40	**2012 :** 40	**2013 :** 40

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 806 - Youth Development

Outcome #2

1. Outcome Target

% of enrolled 4-H youth who will demonstrate a commitment and understanding of their community and a sense of connectivity through increased delivery of community service programs to those in need.

2. Outcome Type : Change in Knowledge Outcome Measure

2009 : 35	**2010 :** 40	**2011 :** 45	**2012 :** 45	**2013 :** 45

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 806 - Youth Development

Outcome #3

1. Outcome Target

Though training programs, club leadership activities and adult mentors, % of 4-H members who will develop leadership skills (e.g., public speaking, project leadership), gain confidence in their ability to lead and make a difference in their schools and communities and to incorporate these life skills into their daily lives.

2. Outcome Type : Change in Condition Outcome Measure

2009 : 25	**2010 :** 25	**2011 :** 25	**2012 :** 25	**2013 :** 25

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 806 - Youth Development

Outcome #4

1. Outcome Target

% of parents, volunteers and adults serving youth and their families who will gain knowledge and skills that will foster positive youth development and family health and well-being.

2. Outcome Type : Change in Action Outcome Measure

2009 : 35	**2010 :** 40	**2011 :** 45	**2012 :** 45	**2013 :** 45

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

Outcome #5

1. Outcome Target

% of parents who will learn and adopt more effective methods for parental discipline of children and better use of family time.

2. Outcome Type : Change in Action Outcome Measure

2009 : 25	**2010 :** 25	**2011 :** 25	**2012 :** 25	**2013 :** 25

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

Outcome #6

1. Outcome Target

Through connecting to the vast land-grant system of resources and educational opportunities, % of parents and youth-serving adults who will gain knowledge and skills in risk reduction and adopt practices that promote health and safety within the family and community.

2. Outcome Type : Change in Action Outcome Measure

2009 : 20	**2010 :** 20	**2011 :** 25	**2012 :** 25	**2013 :** 25

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

Outcome #7

1. Outcome Target

Pre-post measurement of educational activities, workshops to measure increases in knowledge and skills, focus groups and surveys to assess practice change and adoption, analysis of contact information and demographics to measure expansion of programs to currently underrepresented groups (urban, cultural-diverse communities, minorities, etc.) (Number of assessments per year)

2. Outcome Type : Change in Action Outcome Measure

2009 : 2	**2010 :** 2	**2011 :** 2	**2012 :** 2	**2013 :** 2

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes
- Populations changes (immigration,new cultural groupings,etc.)
- Competing Public priorities
- Competing Programatic Challenges

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Comparisons between program participants (individuals,group,organizations) and non-participants
- Before-After (before and after program)
- Case Study
- During (during program)
- Comparison between locales where the program operates and sites without program intervention

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Journals
- Sampling
- Mail
- Observation
- Structured
- Telephone
- Case Study
- Tests
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #5

1. Name of the Planned Program

Sustainable Communities

2. Brief summary about Planned Program

Between 1964 and 1997, USDA estimates that Rhode Island lost approximately half of its farmland. Loss of farms and rural lands often heralds new residential development, traffic, and associated negative impacts of human activity on the environment. High land values can also stifle expansion of existing farms and make purchasing farmland prohibitive for aspiring farmers. Pressures such as zoning and regulatory issues, conflicts between farmers and homeowners, water supply, and estate settlement, have prompted the RI Division of Agriculture to designate “sustaining and providing for viable agriculture” as its foremost priority. This program will work closely with the RI Division of Agriculture to improve local and grassroots decision making related to economic and environmental sustainability, creating a model that will be available to benefit all of Rhode Island's communities, and in addition, will enhance tourism venues within the state.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	25%		25%	
602	Business Management, Finance, and Taxation	25%		25%	
605	Natural Resource and Environmental Economics	25%		25%	
608	Community Resource Planning and Development	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Rhode Island’s rural and urban fringe communities are undergoing rapid change and face increasingly complex planning and development issues. The impact of residential and commercial development on rural areas has increased costs of municipal services and driven property tax rates higher. Poorly planned growth is also creating sprawl pattern development in rural areas. This trend has resulted in the loss of farm and open space and has placed increased pressure on soil and water resources. Loss of rural character and diminishing quality of place are concerns voiced by rural residents and municipal leaders with increasing frequency and urgency. Loss of farmland is particularly troubling. Between 1964 and 1997 USDA estimates that Rhode Island lost approximately half of its farmland. Loss of farms and rural lands often heralds new residential development, traffic, and associated

negative impacts of human activity on the environment. High land values can also stifle expansion of existing farms and make purchasing farmland prohibitive for aspiring farmers. In its current Plan of Work, Rhode Island's state Division to Division of Agriculture states, " …urban sprawl, and related pressures and problems, continue to threaten the long-term existence of agriculture in Rhode Island. Prime agricultural land continues to be lost to development… farmland values in Rhode Island are the highest in the nation and consequently farmland real estate taxes are higher than in any other state". These and other pressures cited in the plan, such as, zoning and regulatory issues, conflicts between farmers and homeowners, water supply, and estate settlement, have prompted the RI Division of Agriculture to designate "sustaining and providing for viable agriculture" as its foremost priority.

2. Scope of the Program

- In-State Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Through the addition of new and reassigned staff and the formation of resource partnerships, URI Extension has been building its capacity to conduct programs in sustainable communities and farm viability. Noteworthy assets that will be applied to this program area include assignment of a Senior Extension Educator/Sustainable Communities and a Sustainable Agriculture Specialist and other agricultural technical support personnel. Our program will be leveraged by staff and operating resources of our strategic partners - the RI Center for Agricultural Promotion and Education (RICAPE), and the RI Division of Agriculture as well as other state agencies and key collaborators including USDA/NRCS, and regional Extension systems. Multi-year USDA/SARE grant funds have also been secured to support staff and operating costs. We have also established a representative Small-Farms advisory committee. Our ability to develop and deliver sustainable tourism programming will be enhanced through collaboration with the Blackstone Valley Tourism Council, RICAPE, the Division of Agriculture and RI's extensive tourism industry network, as well as CSREES/national and regional sustainable tourism research and education resources.

2. Ultimate goal(s) of this Program

Our long term goal to strengthen the capacity of state and local organizations, municipalities, citizens and farmers/agriculturalists to make informed decisions and plan economically and environmentally sustainable communities and farms, and to manage natural resources and community assets wisely. This program will focus on commercial farm viability, stewardship of agricultural lands and sustainable development and management of tourism venues.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	1.0	0.0	0.0	0.0
2010	1.0	0.0	0.0	0.0
2011	1.0	0.0	0.0	0.0
2012	1.0	0.0	0.0	0.0
2013	1.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Study and promote commercial farm viability
•Promote responsible stewardship of agricultural lands
•Work with municipalities and community members to manage natural and economic resources wisely
•Teach and promote sustainable development techniques and management to communities

•Promote, enhance and expand sustainable tourism in the state of Rhode Island

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Other 1 (Public presentations) • Workshop • Group Discussion • One-on-One Intervention • Other 2 (Conferences)	• Web sites • Other 1 (Fact sheets and bulletins) • Other 2 (Displays / Exhibits)

3. Description of targeted audience

Farmers/ Farm OrganizationsRI Department of Environmental Management (RI DEM), Division of AgricultureRI Center for Agricultural Promotion & EducationOther Agricultural Service ProvidersTourism Councils and Tourism BusinessesLand TrustsPolicy Makers and Municipal LeadersGrassroots and Community Organizations

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	500	10000	0	500
2010	500	10000	0	500
2011	500	10000	0	500
2012	500	10000	0	500
2013	500	10000	0	500

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :** 0 **2013 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Identify new muncipal partners

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Conduct Community based workshops

  2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 5 **2013 :** 5

- Professional training

  2009 : 8 **2010 :** 10 **2011 :** 10 **2012 :** 10 **2013 :** 10

- Public presentations

  2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 5 **2013 :** 5

- Website development and refinement

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Student Training

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

V(I). State Defined Outcome

O. No	Outcome Name
1	Provide information and training to municipal leaders and organizations on management of natural resources and community assets.
2	Provide information and training to farmers and rural landowners on estate planning strategies and economic development opportunities.
3	Improve viability of agriculture in the state of Rhode Island through farmer education/information and consulting concerning sustainable agricultural practices, value added products and agri-tourism.
4	Consult with grassroots and municipal bodies to identify planning processes and strategies that preserve viable farmland, promote sustainability and economic development

Outcome #1

1. Outcome Target

Provide information and training to municipal leaders and organizations on management of natural resources and community assets.

2. Outcome Type : Change in Knowledge Outcome Measure

2009 : 5	**2010 :** 5	**2011 :** 5	**2012 :** 5	**2013 :** 5

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

Outcome #2

1. Outcome Target

Provide information and training to farmers and rural landowners on estate planning strategies and economic development opportunities.

2. Outcome Type : Change in Action Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 605 - Natural Resource and Environmental Economics

Outcome #3

1. Outcome Target

Improve viability of agriculture in the state of Rhode Island through farmer education/information and consulting concerning sustainable agricultural practices, value added products and agri-tourism.

2. Outcome Type : Change in Condition Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation

- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

Outcome #4

1. Outcome Target

Consult with grassroots and municipal bodies to identify planning processes and strategies that preserve viable farmland, promote sustainability and economic development

2. Outcome Type : Change in Condition Outcome Measure

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Public Policy changes
- Appropriations changes
- Economy
- Government Regulations
- Natural Disasters (drought,weather extremes,etc.)
- Populations changes (immigration,new cultural groupings,etc.)
- Competing Public priorities

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Time series (multiple points before and after program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Structured
- Mail
- Sampling
- On-Site
- Telephone
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #6

1. Name of the Planned Program

Vector Borne Diseases and Human Health

2. Brief summary about Planned Program

This program uses a multi-pronged strategy to try to understand the biology and distribution of deer ticks and to reduce the transmission of diseases, especially Lyme disease, from deer ticks to humans. URI researchers continue to study the environmental factors, particularly humidity, that affect deer tick distribution and are developing a web-based information system so that the public can properly understand the risks associated with deer ticks and strategies that humans can take to avoid contact with them. Knowledge areas include 721 (20%) and 722 (80%). In KA 721, we are elucidating transmission dynamics of pathogens among tick vectors and vertebrate hosts, as well as improving methods of pest control through the use of 4-posters to apply pesticides to deer and evaluation of natural enemies of ticks. In KA 722, we are developing methods to prevent disease transmission from ticks to humans, by educating the public about ways to avoid deer ticks, by developing novel vaccination strategies, and by developing biomolecular assays for tick-borne pathogens. Stakeholders in this program literally include the entire U.S. population, who could contract Lyme disease either at home or on vacation, but most stakeholders are in the Northeast U.S. hotbed of this malady. We assume that this program will continue to be funded primarily by extramural sources (e.g., USDA, NIH) and that the leader of the program will be able to continue to attract a multidisciplinary cadre of talented people to the program. The ultimate goal of the program is to provide the public with enough information and products that the incidence of Lyme disease will be significantly reduced. Outputs from the program include peer-reviewed publications, fact sheets, a web site, and on-site demonstrations of materials and techniques. Outcomes include changes in behavior of the public, so that they reduce the risk of contact with ticks, and a reduction in the incidence of Lyme disease.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
721	Insects and Other Pests Affecting Humans	20%		20%	
722	Zoonotic Diseases and Parasites Affecting Humans	80%		80%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Public awareness of tick-borne diseases is increasing in the coastal Northeast region, but there continues to be poor implementation and compliance with disease prevention strategies, despite the extraordinary prevalence of such diseases in this region, including Rhode Island. The deer tick becomes infected with and transmits a variety of infections including the Lyme disease bacterium, as well as the agents causing human babesiosis and granulocytic anaplasmosis. Populations of white-tail deer, found increasingly even in semi-urban settings, sustain and have served to increase deer tick populations. URI researchers are attempting to develop a health information delivery and decision support system intended to reduce the incidence of Lyme

disease. The first step toward the establishment of a health information system involved identifying and prioritizing risk. Using surveillance data accumulated over a dozen years, URI researchers developed new tools to pinpoint risk, both spatially and seasonally. Using computer models to view disease patterns in Rhode Island, URI scientists determined which landscape patterns presented the greatest risk for encountering a tick bite. This will allow formulation of landscape plans to reduce the chances of encounters between ticks and people. Another aspect of the project involves the creation of a web-based decision support system. Using this system, people can compile a customized risk index and then follow links that will help them devise short- and long-term disease prevention action plans. Also, attempts are being made to reduce tick abundance community-wide by using USDA-designed 4-posters, which are devices that attract deer with corn dispensed in small amounts. The deer must pass through a set of vertically mounted rollers that are treated with pesticide, which should reduce the deer tick population. Finally, URI scientists study the salivary glands of ticks to find compounds from ticks with potential pharmacological value, formulate novel vaccination strategies to prevent tick-transmitted infections, develop biomolecular assays for tick-borne pathogens, elucidate transmission dynamics of pathogens among tick vectors and vertebrate hosts, and discover and evaluate natural enemies of ticks.

2. Scope of the Program

- In-State Extension
- Integrated Research and Extension
- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

It is assumed that this program will continue to be funded primarily by extramural sources (e.g., USDA, NIH) and that the leader of the program will be able to continue to attract a multidisciplinary cadre of talented people to his outreach and research program.

2. Ultimate goal(s) of this Program

The ultimate goal of the program is to provide the public with enough information and products that the incidence of Lyme disease will be significantly reduced. To this end, URI researchers are attempting to develop a comprehensive health information delivery and decision support system addressing risk behaviors and awareness of Lyme disease.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	1.0	0.0	2.0	0.0
2010	1.0	0.0	2.0	0.0
2011	1.0	0.0	2.0	0.0
2012	1.0	0.0	2.0	0.0
2013	1.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- Use surveillance data accumulated over a dozen years to develop new tools to pinpoint risk, both spatially and seasonally.
- Use computer models to view disease patterns in Rhode Island and to develop models for disease risk.

- Determine landscape patterns that present the greatest risk for encountering a tick bite.
- Formulate landscape plans to reduce the chances of encounters between ticks and people.
- Create a web-based decision support system. Using this system, people will be able to compile a customized risk index and then follow links that will help them devise short- and long-term disease prevention action plans.
- Reduce tick abundance community-wide by using USDA-designed 4-posters, which are devices that attract deer with corn dispensed in small amounts.
- Study the salivary glands of ticks to find compounds from ticks with potential pharmacological value, formulate novel vaccination strategies to prevent tick-transmitted infections, develop biomolecular assays for tick-borne pathogens, elucidate transmission dynamics of pathogens among tick vectors and vertebrate hosts, and discover and evaluate natural enemies of ticks.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Group Discussion • Education Class • Workshop • Demonstrations	• Newsletters • Public Service Announcement • TV Media Programs • Web sites

3. Description of targeted audience

The target audience will be diverse and will represent all Rhode Islanders, especially those at greatest risk of contracting vector borne diseases. This audience will include:Community membersGrassroots agenciesMunicipal and State Policy MakersHome ownersEducational Institutions

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	100	10000	100	5000
2010	100	10000	100	5000
2011	100	10000	100	5000
2012	100	10000	100	5000
2013	100	10000	100	5000

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 1 **2012 :** 1 **2013 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2009 : 3 **2010 :** 3 **2011 :** 3 **2012 :** 3 **2013 :** 3

- Books and monographs

  2009 : 1 **2010 :** 0 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Abstracts

  2009 : 4 **2010 :** 4 **2011 :** 4 **2012 :** 4 **2013 :** 4

- Conference proceedings

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Workshops

  2009 : 10 **2010 :** 10 **2011 :** 10 **2012 :** 10 **2013 :** 10

- Website development and refinement

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Public presentations

  2009 : 3 **2010 :** 3 **2011 :** 3 **2012 :** 3 **2013 :** 3

- Public service announcements

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Student training

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- M.S. theses and Ph.D. dissertations

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Postdoctoral fellow training

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

V(I). State Defined Outcome

O. No	Outcome Name
1	Identify areas of high risk for vector borne diseases in Rhode Island
2	Create tick surveillance database
3	Create web-based decision suupport system to reduce risk to vector borne diseases.
4	Reduce tick abundance community-wide
5	Characterize the salivary glands of ticks to identify compounds of potential pharmacological value
6	Formulate novel vaccination strategies to prevent tick-transmitted diseases
7	Elucidate transmission dynamics of pathogens among tick vectors
8	Increase research funding

Outcome #1

1. Outcome Target

Identify areas of high risk for vector borne diseases in Rhode Island

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #2

1. Outcome Target

Create tick surveillance database

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #3

1. Outcome Target

Create web-based decision suupport system to reduce risk to vector borne diseases.

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #4

1. Outcome Target

Reduce tick abundance community-wide

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #5

1. Outcome Target

Characterize the salivary glands of ticks to identify compounds of potential pharmacological value

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #6

1. Outcome Target

Formulate novel vaccination strategies to prevent tick-transmitted diseases

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
0	0	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #7

1. Outcome Target

Elucidate transmission dynamics of pathogens among tick vectors

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

Outcome #8

1. Outcome Target

Increase research funding

2. Outcome Type : Change in Condition Outcome Measure

2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 5 **2013 :** 5

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 721 - Insects and Other Pests Affecting Humans
- 722 - Zoonotic Diseases and Parasites Affecting Humans

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Appropriations changes
- Natural Disasters (drought,weather extremes,etc.)
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Human behavior)

Description

Weather extremes affect deer tick populations. Further, the appropriation of competitive funding will largely determine the progress that is made in this area. Last, the success of the project will be determined by the degree with which Rhode Islanders change their behavior to reduce risk of the disease.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- After Only (post program)
- Comparison between locales where the program operates and sites without program intervention
- During (during program)

Description

A mix of evaluation studies will be undertaken. These will include:
•mail surveys
•telephone surveys
•web-based studies
•journals
•direct observation

2. Data Collection Methods

- Observation
- Telephone
- On-Site
- Whole population
- Structured
- Mail
- Sampling
- Journals

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #7

1. Name of the Planned Program

Aquaculture Biotechnology

2. Brief summary about Planned Program

Aquaculture biotechnology includes the technology of raising freshwater and marine organisms, including integrated farming with terrestrial agriculture, as well as the use of molecular methods to improve aquaculture production. We work at both a local scale (to improve small-scale aquaculture) and at national and international scales (conducting research that can result in commercial products for worldwide use). Knowledge areas related to this work include 302 (25%), 304 (25%), 307 (15%) and 311 (35%).

In KA 302, we research utilization of plant proteins as substitutes for fish meal in diets for carnivorous fish, in order to reduce production costs and the harvest of industrial fish from the ocean. In KA 304, we research the genetic factors controlling muscle growth in rainbow trout, in order to obtain faster growth and therefore reduce production costs. In KA 311, we investigate causes of diseases of shellfish and the performance of disease-resistant strains, in order to improve profitability of local shellfish farms.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
302	Nutrient Utilization in Animals	25%		25%	
304	Animal Genome	25%		25%	
307	Animal Management Systems	15%		15%	
311	Animal Diseases	35%		35%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The Rhode Island aquaculture industry is overwhelmingly focused on oyster culture at present, but the industry could be expanded with the culture of new candidate species if the production costs for those species could be lowered. Also, we conduct research toward the production of commercial products (e.g., feeds, improved genetic stocks, vaccines) that could be sold to aquaculture producers worldwide. Thus, our stakeholders are both local and international. Last, the success of aquaculture is integrally linked to seafood. Opportunities exist to exploit this relationship.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

We assume that we will have continued Hatch funding for some projects, extramural grants (NRI, SARE, etc.) for others, continued use of our facilities, including full operation of the Blount Aquaculture Research Lab, continued participation of existing aquaculture faculty, and replacement of at least one of two staff members who have left in the past year.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to have an expanded aquaculture industry in RI, including both small-scale production of finfish and shellfish and companies producing products that can be sold on an international market.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	0.8	0.0	2.0	0.0
2010	0.8	0.0	2.0	0.0
2011	0.8	0.0	2.0	0.0
2012	0.8	0.0	2.0	0.0
2013	0.8	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Investigate causes of diseases of shellfish and performance of disease resistant strains
•Research utilization of plant proteins as substitutes for fish meal in diets of carnivorous fish
•Research genetic factors controlling muscle growth in rainbow trout
•Expand the culture of new candidate species for Rhode Island
•Conduct research related to the development and production of commercial products such as feeds, genetic seed and vaccines
•Promote environmentally sustainable aquaculture production practices
•Integrate seafood waste processing as a candidate for aquaculture feed production

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• One-on-One Intervention • Workshop • Other 1 (National and International Mtg) • Group Discussion	• Web sites

3. Description of targeted audience

Aquaculture industryTerrestrial farmers (interested in integrated

aquaculture/agriculture)ProducersDistributersScientistsRhode Island Department of Environmental ManagementPolicy MakersUSDA/NRCS
NRAC

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	200	1000	75	0
2010	200	1000	75	0
2011	200	1000	75	0
2012	200	1000	75	0
2013	200	1000	75	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**1 **2011 :** 1 **2012 :**1 **2013 :**1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer Reviewed Publications

  2009 :3 **2010 :**3 **2011 :** 3 **2012 :**3 **2013 :**3

- Books and Monographs

  2009 :1 **2010 :**1 **2011 :** 0 **2012 :**1 **2013 :**1

- Abstracts

  2009 :2 **2010 :**2 **2011 :** 2 **2012 :**3 **2013 :**3

- Scientific and Professional Presentations

2009 : 2 **2010 :** 1 **2011 :** 1 **2012 :** 2 **2013 :** 2

- Workshops

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 3 **2013 :** 3

- Website development and refinement

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Student training

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- MS theses and PhD dissertations

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 2 **2013 :** 2

- Postdoctoral fellow training

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased aquaculture production in Rhode Island (both of current species and new species)
2	Increased economic profitability for aquaculture farmers and terrestrial farmers who integrate aquaculture production with their traditional crops
3	Improved sustainable farming practices employed by the aquaculture industry and integrated terrestrial farmers

Outcome #1

1. Outcome Target

Increased aquaculture production in Rhode Island (both of current species and new species)

2. Outcome Type : Change in Condition Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 311 - Animal Diseases

Outcome #2

1. Outcome Target

Increased economic profitability for aquaculture farmers and terrestrial farmers who integrate aquaculture production with their traditional crops

2. Outcome Type : Change in Condition Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 311 - Animal Diseases

Outcome #3

1. Outcome Target

Improved sustainable farming practices employed by the aquaculture industry and integrated terrestrial farmers

2. Outcome Type : Change in Condition Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome

- 307 - Animal Management Systems
- 311 - Animal Diseases

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Government Regulations
- Economy
- Natural Disasters (drought,weather extremes,etc.)
- Competing Public priorities

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Comparison between locales where the program operates and sites without program intervention
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- During (during program)
- Retrospective (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Tests
- Observation
- Telephone
- Mail
- Structured
- Sampling
- On-Site
- Case Study

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #8

1. Name of the Planned Program

Water Quality

2. Brief summary about Planned Program

New Englanders take great pride in their countryside, where a patchwork of colonial farms, historic villages and independent local governments reflect our Nation's origins. Rhode Island relies on its rural lands to provide safe drinking water and sustain the water quality of estuaries and freshwater systems that provide valuable opportunities for recreation, fin fishing and shellfishing. But, the compressed geography, population density and lack of county government present major challenges for water quality protection. In addition, the historic approaches to private well development, unsewered wastewater treatment practices and agricultural waste management generate high risks for ground and surface water contamination. Total Maximum Daily Load (TMDL) studies across New England relate water quality problems to nitrogen, phosphorus and pathogen inputs from rural and agricultural landscapes. Pesticide, pathogen and nitrate contamination continue to plague private and public well water. In addition, naturally-occurring contaminants present challenges to the risks associated with drinking water protection. More recently, suburban sprawl and rapid development are contributing to the loss of forest, agricultural and open lands and their ecological functions. Local governments grapple for watershed management tools that can minimize water quality risks from development.

To address the water quality challenges of Rhode Island and rural New England, research will be conducted to characterize and control nonpoint sources of water contamination from rural and mixed use watersheds. Investigations will also focus on watershed patterns and processes that affect the fate of nonpoint contaminants and approaches to assess the effects of contaminants and disturbance on surface water ecosystems and groundwater. Research methods include lab and field studies as well as inventories, remote sensing studies and GIS. Extension programs will continue to create locally relevant programs focused on land and community management. We work at both local and regional scales. We will develop, test and refine programs with case studies at the local level that leverage other sources of support. In cooperation with stakeholders and partner agencies, we will identify needs and build upon successful local programs to create and disseminate new materials, tools and curricula for use throughout New England. Our long term goal is to strengthen URI's capacity to deliver an integrated water quality program that educates, empowers, and engages agricultural producers, residents and communities throughout New England to become effective stewards of their local water resources. Our water quality programming will continue long-term development, delivery and application of proven water quality management tools and techniques such as best management practices (BMPs) for onsite waste water treatment, shoreline buffers, Nonpoint Education for Municipal Officials (NEMO) programming, Home*A*Syst/Farm*A*Syst, Volunteer Water Quality Monitoring and geospatial data development and use.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	10%		10%	
112	Watershed Protection and Management	50%		50%	
131	Alternative Uses of Land	15%		15%	
133	Pollution Prevention and Mitigation	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Rhode Island relies on its rural lands to provide safe drinking water and sustain the water quality of estuaries and freshwater systems that provide valuable opportunities for recreation, fin fishing and shellfishing. But, the compressed geography, population density and lack of county government present major challenges for water quality protection. In addition, the historic approaches to private well development, unsewered wastewater treatment practices and agricultural waste management generate high risks for ground and surface water contamination. Total Maximum Daily Load (TMDL) studies across New England relate water quality problems to nitrogen, phosphorus and pathogen inputs from rural and agricultural landscapes. Pesticide, pathogen and nitrate contamination continue to plague private and public well water. In addition, naturally-occurring contaminants present challenges to the risks associated with drinking water protection. More recently, suburban sprawl and rapid development are contributing to the loss of forest, agricultural and open lands and their ecological functions. Local governments grapple for watershed management tools that can minimize water quality risks from development.

2. Scope of the Program

- Integrated Research and Extension
- Multistate Extension
- In-State Research
- Multistate Integrated Research and Extension
- In-State Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Land use characteristics and anticipated changes create conflicts between the developed and undeveloped environment and between land managers and others. This situation is predicted to become exacerbated due to increased land use development patterns over the near term. The development and transmission of relevant information is needed to enable public and private decision makers to best manage this evolving situation.

2. Ultimate goal(s) of this Program

Research: Improve our understanding of water quality management in rural and mixed use watersheds.
Characterize the risks of nonpoint sources of water contamination from rural and mixed use watersheds.
Investigate watershed patterns and processes that affect the fate of nonpoint contaminants.
Assess the efficacy of water quality improvement practices at the local and watershed scale
Assess the effects of contaminants and disturbance on surface water ecosystems and groundwater.
Extension: Provide locally-relevant programs focused on individual actions and and community management that can

protect and restore water quality in surface water ecosystems and in groundwater.

Communities decision makers will adopt new approaches to assess, characterize and protect water resources and mitigate existing problems.

Private industry will be trained in new techniques that improve site specific practices such as onsite wastewater treatment and shoreline landscaping.

Watershed residents will learn about onsite wastewater management and sustainable landscape practices that reduce the risks of surface and groundwater contamination. In addition they will engage in monitoring practices that will enhance their understanding of local water quality issues and encourage them to pursue actions at the local and community level to protect and improve water resources.

Agricultural producers will gain insight and be encouraged to adopt appropriate BMPs to reduce loss of nutrients from the working landscape

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	3.0	0.0	7.0	0.0
2010	3.0	0.0	7.0	0.0
2011	3.0	0.0	7.0	0.0
2012	3.0	0.0	7.0	0.0
2013	3.0	0.0	7.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Studies will be conducted to investigate the sources, fate and transport of nonpoint source contaminants in surface and ground water systems.

•

The efficacy of different management practices will be evaluated at the local and watershed scale.

•

New approaches to relate soil and landscape features to water quality stressors will be researched.

•

Outreach efforts to community decision makers, agricultural, residential and engineering/regulatory community will be conducted.

•

Demonstration sites will be established for use in such research and Extension programs.

•Publications, fact sheets, web sites will be developed, produced and disseminated.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• One-on-One Intervention • Demonstrations • Workshop • Education Class	• Web sites • Newsletters

3. Description of targeted audience

Public decision makers / Policy makers (local, state and federal agencies)Municipal plannersPrivate sector firms engaged in watershed management, landscaping, onsite waste water treatment and private wellsA variety of NGOs (land trusts, environmental organizations, etc).Agricultural producersThe general public

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	500	5000	0	0
2010	500	5500	0	0
2011	500	6000	0	0
2012	500	6000	0	0
2013	500	6000	0	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer Reviewed Publications

  2009 :4 **2010 :**4 **2011 :** 4 **2012 :**4 **2013 :**4

- Fact sheets, bulletins and newsletters

  2009 :10 **2010 :**10 **2011 :** 10 **2012 :**10 **2013 :**10

- Website development and refinement

  2009 :1 **2010 :**1 **2011 :** 1 **2012 :**1 **2013 :**1

- Training manuals and Instructional CDS developed

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Public service announcements, news releases/articles

  2009 : 10 **2010 :** 10 **2011 :** 10 **2012 :** 10 **2013 :** 10

- Books and monographs

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Abstracts

  2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 5 **2013 :** 5

- Workshops and Conferences hosted or Co-hosted

  2009 : 4 **2010 :** 4 **2011 :** 4 **2012 :** 4 **2013 :** 4

- Presentations and Short Courses

  2009 : 65 **2010 :** 65 **2011 :** 70 **2012 :** 70 **2013 :** 70

- Student training

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- MS theses and PhD dissertations

  2009 : 1 **2010 :** 1 **2011 :** 2 **2012 :** 2 **2013 :** 2

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased (%) of BMP approaches adopted by target audience
2	Development of new models
3	Increased (%) adoption of onsite wastewater management plans by local communities
4	Increased use and development (%) of locally based water quality and watershed data by community decision makers
5	Increased adoption (%) of improved landscape management practices by targeted populations
6	Increased testing of well water by targeted homeowner populations

Outcome #1

1. Outcome Target

Increased (%) of BMP approaches adopted by target audience

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
5	5	5	5	5

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

Outcome #2

1. Outcome Target

Development of new models

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

Outcome #3

1. Outcome Target

Increased (%) adoption of onsite wastewater management plans by local communities

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
5	5	5	5	5

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land

- 133 - Pollution Prevention and Mitigation

Outcome #4

1. Outcome Target

Increased use and development (%) of locally based water quality and watershed data by community decision makers

2. Outcome Type : Change in Condition Outcome Measure

2009 : 5	**2010 :** 10	**2011 :** 10	**2012 :** 10	**2013 :** 10

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

Outcome #5

1. Outcome Target

Increased adoption (%) of improved landscape management practices by targeted populations

2. Outcome Type : Change in Condition Outcome Measure

2009 : 15	**2010 :** 15	**2011 :** 20	**2012 :** 20	**2013 :** 20

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

Outcome #6

1. Outcome Target

Increased testing of well water by targeted homeowner populations

2. Outcome Type : Change in Condition Outcome Measure

2009 : 10	**2010 :** 15	**2011 :** 15	**2012 :** 15	**2013 :** 15

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 112 - Watershed Protection and Management

- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Appropriations changes
- Public Policy changes
- Natural Disasters (drought,weather extremes,etc.)

Description

Use and management of various inputs to the working landscape will be impacted by various weather events. Also, reduced funding for Extension programs will reduce the ability to conduct educational programs, demonstration sites, etc.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- After Only (post program)
- Before-After (before and after program)

Description

Evaluation studies will be varied in terms of time and program area. main efforts will be to evaluate, on an ongoing basis, attitudes changed due to knowledge gains resulting from our programs.

2. Data Collection Methods

- Unstructured
- Observation
- Sampling
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #9

1. Name of the Planned Program

Forestry and Wildlife

2. Brief summary about Planned Program

Presently, 60% of Rhode Island is forested. Eighty-percent of this forested land (303,000 acres) is privately owned by roughly 32,000 people. Approximately 80% (over 26,000 people) own forest parcels of less than 10 acres which amounts to roughly 250,000 acres of forestland in RI. This trend is not unique to our small, densely populated state. Nationally, there are 150,000 new forest owners each year who acquire between 1 and 10 acre parcels. These forest owners are obtaining some of the most productive forestland. Cumulatively, they can have a significant impact on the Rhode Island landscape and their management decisions affect biodiversity, wildlife, the character of rural communities and forest health. Local governments also play an important role in forest and wildlife management within RI. Policy makers and professionals need information on which to base their land use decisions, including options for land preservation, identification of sensitive areas, and the management and protection of open space areas. In addition, invasive species threaten the sustainability of our forests and terrestrial ecosystems. Research will be designed to improve understanding of the site factors that influence amphibian breeding success within forested, vernal pools. Economic analyses will provide new approaches and insights of the public values for changes in forestry practices and public preferences for forest conservation programs. Investigations on wildlife habitat in early successional forests will explore how management practices affect home range and survival of grouse. Research evaluating the quality of available forest habitats and food sources for migrating song birds at stop over sites in Coastal New England will provide insights for managing coastal habitats for enhancing biodiversity. Investigations on the forcing factors influencing invasive species will provide insights that can enable appropriate risk assessment and risk management strategies for invasives. Extension work will be designed to raise the awareness of forest owners, local decision makers, NGOs and state officials about the value of RI's forest resource and to provide our audience with the tools and educational materials to make informed decisions that protect and enhance the state's forests. Site assessment and management for individual landowners will be conducted through materials developed by our Woodscaping project. We will provide data and training to planners, conservation groups, and land trusts at the municipal level to increase awareness of vital natural resources and critical habitats, including forest resources throughout the State. We will focus on delivering training in GIS technology and provide access to a wealth of spatial data through the URI Environmental Data Center Websites. We will also collaborate with the Rhode Island Natural History Survey to meet both our research and extension goals.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	40%		40%	
131	Alternative Uses of Land	30%		30%	
135	Aquatic and Terrestrial Wildlife	10%		10%	
136	Conservation of Biological Diversity	20%		20%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Presently, 60% of Rhode Island is forested. Eighty-percent of this forested land (303,000 acres) is privately owned by roughly 32,000 people. Approximately 80% (over 26,000 people) own forest parcels of less than 10 acres which amounts to roughly 250,000 acres of forestland in RI. This trend is not unique to our small, densely populated state. Nationally, there are 150,000 new forest owners each year who acquire between 1 and 10 acre parcels. These forest owners are obtaining some of the most productive forestland. Cumulatively, they can have a significant impact on the Rhode Island landscape and their management decisions affect biodiversity, wildlife, the character of rural communities and forest health. Local governments also play an important role in forest and wildlife management within RI. Policy makers and professionals need information on which to base their land use decisions, including options for land preservation, identification of sensitive areas, and the management and protection of open space areas.

Sustaining wildlife through habitat management is a critical issue for RI. Migrating song birds require suitable food sources to complete their migration and coastal lands have undergone extreme changes in vegetation, potentially imperiling migration success and fecundity for many native species. Ruffed Grouse are a of particular concern in southern New England because they are a native gamebird species that is currently too rare to sustain a hunting season and they serve as a “sentinel species” for the response of many species to the success or failure of management of early successional forests. Although vernal ponds in forested watersheds provide essential habitat for a host of organisms, the fecundity of these organisms is highly linked to forest disturbance and management, requiring a careful understanding of the underlying ecology. Invasive plants threaten the integrity of New England habitats and could affect biodiversity within the state.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Geospatial research and technology can play an enormously important role in providing decision support for land use decision making. In particular, there are new GIS, GPS and other remote sensing based tools that can help local decision makers to both visualize existing and future land use patterns, and model the various impacts of these patterns. Technology alone, however, is unlikely to have much of an impact with this busy audience, without the mediation of education and technical assistance. A planned system of open space conservation, or ‘green infrastructure’, is as important to an area as its roads and sewers. Preserving forests and open space in the face of these pressures will require unprecedented inputs of education and

information to several key audiences - private forest owners and municipal officials and commissioners. This latter audience is overwhelmingly populated by lay volunteers who are in chronically short supply and often poorly supported with education and technical support.

2. Ultimate goal(s) of this Program

Research: Improve Rhode Island's forest habitat and wildlife through: • Understanding how wildlife habitats, particularly vernal ponds and early successional forests can be maintained or restored to assure sustainable levels of indigenous species in the face of increasing pressures of population growth, urbanization, pollution, and inadequate public understanding • improved public understanding of the life history, values and status of Ruffed Grouse • Increased understanding about the role of coastal habitat for the long term survival of migrating song birds. • Enhanced understanding of the drivers and risks associated with invasive species on terrestrial and wetland habitats. Extension: Improve Rhode Island's forestland productivity and health through: • Forest landowners learning enhanced knowledge about good forest stewardship • Increased use of geospatial information by local decision makers to improve the planning and stewardship of forested lands.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	0.5	0.0	1.0	0.0
2010	0.5	0.0	1.0	0.0
2011	0.5	0.0	1.0	0.0
2012	0.5	0.0	1.0	0.0
2013	0.5	0.0	1.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•A combination research and Extension program will address key issues related to forestry and wildlife considerations in Rhode Island. Particular emphasis will be on developing geospatial data and training decision makers to use GIS and GPS to assess local risks and opportunities for forest management. Economic analyses will be used to explore public preferences for conservation strategies. Also, research will be designed to better understand the Ruffed Grouse, vernal pond characteristics, habitat requirements of migrating song birds with results enriching outreach efforts to protect these important species and their habitats.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Workshop • One-on-One Intervention	• Newsletters • Web sites

3. Description of targeted audience

A mixture of public policy personnel (federal and state agencies as well as town conservation, planning and management officials), local nonprofit groups involved in land management, such as conservancies, interested and involved citizens, and private landowners and high school students through training and participation in the Rhode Island Environthon.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	450	1000	100	0
2010	450	1000	100	0
2011	450	1000	100	0
2012	450	1000	100	0
2013	450	1000	100	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2009 :4 **2010 :**4 **2011 :** 4 **2012 :**4 **2013 :**4

- Fact sheets, Bulletins and newsletters

  2009 :5 **2010 :**4 **2011 :** 12 **2012 :**5 **2013 :**5

- Short courses

  2009 :4 **2010 :**4 **2011 :** 4 **2012 :**4 **2013 :**4

- Website development and refinement

  2009 :3 **2010 :**3 **2011 :** 3 **2012 :**3 **2013 :**3

- Books and monographs

2009 : 0 **2010 :** 0 **2011 :** 1 **2012 :** 0 **2013 :** 0

- Abstracts

2009 : 3 **2010 :** 3 **2011 :** 3 **2012 :** 3 **2013 :** 3

- Workshops and Conferences hosted

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Public presentations

2009 : 15 **2010 :** 15 **2011 :** 15 **2012 :** 15 **2013 :** 15

- Student training

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- MS Theses and PhD Dissertations

2009 : 1 **2010 :** 2 **2011 :** 1 **2012 :** 1 **2013 :** 1

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased (%) GIS database usage by towns
2	Stewardship plans developed
3	Increased understanding of fish and wildlife populations (#)

Outcome #1

1. Outcome Target

Increased (%) GIS database usage by towns

2. Outcome Type : Change in Condition Outcome Measure

2009 : 10	**2010 :** 10	**2011 :** 10	**2012 :** 10	**2013 :** 10

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

Outcome #2

1. Outcome Target

Stewardship plans developed

2. Outcome Type : Change in Condition Outcome Measure

2009 : 10	**2010 :** 10	**2011 :** 10	**2012 :** 10	**2013 :** 10

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

Outcome #3

1. Outcome Target

Increased understanding of fish and wildlife populations (#)

2. Outcome Type : Change in Condition Outcome Measure

2009 : 2	**2010 :** 2	**2011 :** 2	**2012 :** 2	**2013 :** 2

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land
- 135 - Aquatic and Terrestrial Wildlife

- 136 - Conservation of Biological Diversity

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Appropriations changes
- Economy
- Competing Programatic Challenges
- Public Policy changes
- Competing Public priorities

Description

Economic conditions may negatively affect land owners' willingness to implement stewardship plans or towns to implement urban forestry programs. Reduced funding may restrict Extension activity.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Time series (multiple points before and after program)
- Retrospective (post program)
- Before-After (before and after program)

Description

A variety of evaluation approaches will be employed and will vary from research and Extension effort.

2. Data Collection Methods

- Sampling
- Observation
- Unstructured
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #10

1. Name of the Planned Program

Community Gardening and Outreach

2. Brief summary about Planned Program

Gardening is the number 1 hobby in the United States. The URI CELS Cooperative Extension Education Center (CEEC) uses this passion for gardening as an avenue for communicating a wealth of information on environmental issues directly tied to behaviors at home. The URI CEEC delivers a range of research-based horticulture and environmental programs for the general public, youth, the Green Industry and governmental agencies. At the Center we work closely with Rhode Island's AES and CE programs in agricultural systems management. These programs emphasize the green industries (turfgrass and environmental horticulture) of the state because of their relative importance to the economy here in Rhode Island. We also are working closely with URI CE staff involved with sustainable agriculture as part of an effort to revitalize and strengthen outreach programs to the more traditional agricultural sector.

We work with CELS faculty and staff to address the needs of the state in a coordinated program of research and outreach that covers plant production, landscape design, landscape plant use, installation, and maintenance and coordinate educational programs in these areas for the general public. Thus, we directly impact green industry professionals, homeowners, and all citizens and visitors utilizing managed landscapes (parks, ball fields, and golf courses) throughout Rhode Island. Our focus is to maintain an economically viable industry with environmentally benign practices.

Our program in environmental landscape horticulture integrates research and outreach. Research faculty work very closely with CE faculty, educators and staff and provide the basis for the coordinated outreach efforts in Invasive Species, Emerging Infectious Diseases, Sustainable Agriculture and Integrated Pest Management.This "vertical integration" – programs which target different target audiences involved with a topic and integrating research with outreach – is integral to our efforts to solve problems. For example, the Green Industry benefits from a strong partnership with URI to deliver research-based information and demonstration/training programs. These activities open new opportunities and insights into the economics, marketing and financial advantages of environmental horticulture and IPM. However, successful environmental horticulture and IPM programs also require a strong public education component to create market demand for new products and approaches .We collaborate with CELS scientists in horticulture, entomology, plant pathology, turf, biotech, water quality, wildlife, wetlands, soils, business and communications.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	35%		35%	
205	Plant Management Systems	60%		60%	
806	Youth Development	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Rhode Island is one of the most densely populated states in the country. Managed landscapes, including residential and other development in suburban areas, have a significant impact on the quality and quantity of the state's drinking water as well as on the water quality of Narragansett Bay. Other serious environmental problems can be traced to residential and developing landscapes including pollution from storm water runoff, loss of wildlife habitat, management of invasive plants, preservation of green and open space and waste management. Solving these problems entails working with local and state agencies to identify problems, providing research-based information to develop solutions and coordinating programs designed to influence the behavior of individuals. The URI Cooperative Extension Education Center is uniquely positioned to deliver educational programs on pollution prevention to key target audiences in the state by incorporating these programs into our well-established and highly successful outreach efforts. The Center has developed a successful model for influencing the behavior of individuals in their own backyard. The model's success is based on the fact that gardening is the number one hobby in the United States. We are able to use this passion for gardening as an avenue for communicating a wealth of information on environmental issues directly tied to behaviors at home.

2. Scope of the Program

- In-State Research
- Multistate Integrated Research and Extension
- In-State Extension
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Protecting water quality and quantity, preserving green and open space, enhancing wildlife habitat and biodiversity will be challenges for southern New England. Research conducted by scientists at the University of Rhode Island and by other scientists within the Land Grant System will help identify the most economically efficient and environmentally effective approaches to addressing the problems. University outreach programs can play a critical role in problem-solving by providing research-based information and working with cliental to apply the information.

2. Ultimate goal(s) of this Program

Research: Establish a minimum of 3 collaborative research projects with by faculty and staff in the URI CELS and other land grant universities regarding Sustainable Landscapes, Sustainable Agriculture, Invasive Species, Watershed Patterns and Processes and Watershed management, Emerging Infectious Diseases, and Integrated Pest Management; Extension: Provide locally-relevant programs focused on individual actions and community management that can enhance community green and open

space, protect and restore water quality in surface water ecosystems and in groundwater; conserve water and increase composting of organic materials.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	3.0	0.0	0.0	0.0
2010	3.0	0.0	0.0	0.0
2011	3.0	0.0	0.0	0.0
2012	3.0	0.0	0.0	0.0
2013	3.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Outreach efforts to community decision makers, agricultural, residential and engineering/regulatory community will be conducted.
•Outreach to school children and to the urban population center in the state.
•Demonstration sites will be established for use in such research and Extension programs
•Development and dissemination of Publications, fact sheets, and web sites

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Demonstrations • One-on-One Intervention • Workshop	• Web sites • Newsletters • Other 1 (Print media) • TV Media Programs

3. Description of targeted audience

Community and Public decision makers (local, state and federal agencies)The general publicAgricultural producers, residential and engineering/regulatory community membersSchool aged childrenUrban populationsMunicipal PlannersPrivate sector firms engaged in watershed management, landscaping, onsite wastewater treatment and private wellsVarious NGOs (land trusts, environmental organizations)

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	8000	250000	10000	0
2010	10000	250000	15000	0
2011	10000	250000	20000	0
2012	10000	250000	20000	0
2013	10000	250000	20000	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2009 :3 **2010 :**4 **2011 :** 4 **2012 :**3 **2013 :**3

- Fact sheets, bulletins and newsletters

  2009 :10 **2010 :**10 **2011 :** 10 **2012 :**10 **2013 :**10

- Public service announcements, news releases/articles

  2009 :20 **2010 :**20 **2011 :** 20 **2012 :**20 **2013 :**20

- Website development and refinement

  2009 :2 **2010 :**2 **2011 :** 2 **2012 :**2 **2013 :**2

- Books and monographs

  2009 :1 **2010 :**1 **2011 :** 1 **2012 :**1 **2013 :**1

- Abstracts

2009 :4 **2010 :**5 **2011 :** 5 **2012 :**5 **2013 :**5

- Workshops or Conferences hosted or co-hosted

2009 :4 **2010 :**4 **2011 :** 4 **2012 :**4 **2013 :**4

- Presentations and short courses

2009 :35 **2010 :**40 **2011 :** 50 **2012 :**50 **2013 :**50

- Student training

2009 :3 **2010 :**3 **2011 :** 3 **2012 :**3 **2013 :**3

V(I). State Defined Outcome

O. No	Outcome Name
1	Increased use and development (%) of locally based water quality and watershed data by community decision makers
2	Development of new models
3	Increased (%) of BMP approaches adopted by target audiences
4	Increased adoption (%) of improved landscape management practices by targeted population

Outcome #1

1. Outcome Target

Increased use and development (%) of locally based water quality and watershed data by community decision makers

2. Outcome Type : Change in Knowledge Outcome Measure

2009 : 5	**2010 :** 10	**2011 :** 10	**2012 :** 10	**2013 :** 10

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

Outcome #2

1. Outcome Target

Development of new models

2. Outcome Type : Change in Knowledge Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 205 - Plant Management Systems

Outcome #3

1. Outcome Target

Increased (%) of BMP approaches adopted by target audiences

2. Outcome Type : Change in Action Outcome Measure

2009 : 5	**2010 :** 5	**2011 :** 5	**2012 :** 5	**2013 :** 5

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 205 - Plant Management Systems
- 806 - Youth Development

Outcome #4

1. Outcome Target

Increased adoption (%) of improved landscape management practices by targeted population

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
15	15	20	20	20

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 205 - Plant Management Systems
- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Competing Public priorities
- Natural Disasters (drought,weather extremes,etc.)
- Public Policy changes
- Government Regulations
- Competing Programatic Challenges
- Appropriations changes
- Economy

Description

Use and management of various inputs to the working landscape will be impacted by weather events. Also, reduced funding for Extension programs will reduce the ability to conduct educational programs, demonstration sites and outreach to the community and stakeholders.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Comparisons between program participants (individuals,group,organizations) and non-participants
- After Only (post program)
- Before-After (before and after program)
- Retrospective (post program)

Description

Evaluation studies will be varied in terms of time and program area. Main efforts will be to evaluate on an ongoing basis, the attitudes and behaviors changed that are in response to CEEC programs and knowledge gained through those programs.

2. Data Collection Methods

- Sampling
- Unstructured
- Observation
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #11

1. Name of the Planned Program

Health and Well-being of Livestock

2. Brief summary about Planned Program

This program seeks to improve animal production through research on the relationship between nutrition and immune function, as well as through research on male reproductive physiology. In KA 301, we investigate a) development of a model of spermatogenesis that will facilitate investigation of the regulation of gene expression, including regulation of polyadenylation, during male germ cell development, test male contraceptive candidates, and identify factors that contribute to male infertility, and b) sperm cellular functions that contribute to in vivo fertility in livestock species, especially the correlation between protein tyrosine phosphorylation of sperm plasma membrane proteins and male fertility. In KA 302, we investigate the composition and biological availability of nutrients in feed as they relate to immune function of the organism. In KA 305, we study aspects of milk composition in relation to the health status of neonates. In KA 311, we examine mechanisms of disease resistance and immunity of livestock in relation to their nutritional status.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	50%		50%	
302	Nutrient Utilization in Animals	20%		20%	
305	Animal Physiological Processes	10%		10%	
311	Animal Diseases	20%		20%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Research in health and well-being of livestock at URI includes work on nutrition and disease as well as on reproductive physiology. Ensuring and improving the health of the world's livestock and subsequently the populations that they nourish has always been a priority for the world's scientists. The diseases that afflict livestock are many and varied but they all have one thing in common; immune compromised animals are more susceptible to succumbing to disease. The nutritional status of the host animal is becoming increasingly recognized as a factor in the emergence of newly virulent viruses. Until recently the cost of disease has been perceived to be borne only by the animal itself, through the loss of life or loss of productive function. Now it appears that the

lack of nutrients, such as vitamin E and selenium, is not only detrimental to the host animal itself but could precipitate pathogenic changes in the infecting virus that can place an otherwise healthy population at risk of disease. Soil mineral content has a direct bearing on the mineral profile of plants grown on that soil. Many areas of the United States such as the Northeast are considered marginal in soil selenium content. Therefore, forages and crops grown on selenium insufficient soil will themselves be marginal or deficient in selenium, so that the animals that consume these feedstuffs may be as well. Reproduction, especially through artificial insemination, is a cornerstone of livestock production. Recent advances in molecular techniques allow us to investigate aspects of reproduction in ways that will lead to improved methods and therefore success.

2. Scope of the Program

- Multistate Integrated Research and Extension
- In-State Extension
- Multistate Extension
- Integrated Research and Extension
- In-State Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Assumptions associated with this program are that a) additional funding from extramural sources (e.g., NRI, NIH) will be available, b) the URI farm facilities will be maintained and improved.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to have improved production of livestock, especially in the Northeast, but also nationwide, and to develop products and processes that improve reproduction of livestock.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	0.3	0.0	1.3	0.0
2010	0.3	0.0	1.3	0.0
2011	0.3	0.0	1.3	0.0
2012	0.3	0.0	1.3	0.0
2013	0.3	0.0	1.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Examination of the role of selenium on immune system function
•Study nutritional manipulation to enhance nutrient transfer vis colostrum and milk
•Examination of placental nutrient transfer and its impact on the naive immune system
•Study the interaction of nutrition and immunology in animal models
•Cellular and molecular regulation of spermatogenesis and male fertility
•Investigate sperm cellular functions that contribute to in vivo fertility in livestock

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Education Class • One-on-One Intervention • Workshop • Demonstrations	• Web sites

3. Description of targeted audience

Livestock farmers in the NortheastLivestock farmers nationwideThe Livestock Artificial Insemination Industry4-H Youth

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	100	1000	50	100
2010	100	1000	50	100
2011	100	1000	50	100
2012	100	1000	50	100
2013	100	1000	50	100

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 1 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

2009 :2 **2010 :**2 **2011 :** 2 **2012 :**2 **2013 :**2

- Student training

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Scientific and Professional Presentations

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Public presentations

2009 : 3 **2010 :** 3 **2011 :** 3 **2012 :** 3 **2013 :** 3

- Website development and refinement

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- Abstracts

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Fact sheets, bulletins and newsletters

2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- MS Theses and PhD Dissertations

2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

V(I). State Defined Outcome

O. No	Outcome Name
1	Development of fertility assays for use in AI industry
2	Modification of animal feeds which will result in the improvement of immune status and disease resistance

Outcome #1

1. Outcome Target

Development of fertility assays for use in AI industry

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 305 - Animal Physiological Processes

Outcome #2

1. Outcome Target

Modification of animal feeds which will result in the improvement of immune status and disease resistance

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 302 - Nutrient Utilization in Animals
- 311 - Animal Diseases

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Competing Public priorities
- Economy
- Government Regulations
- Natural Disasters (drought,weather extremes,etc.)
- Competing Programatic Challenges

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Case Study
- Retrospective (post program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- During (during program)
- After Only (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Observation
- Telephone
- Structured
- Sampling
- On-Site
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #12

1. Name of the Planned Program

Horticulture and the Reduction of Pests and Disease Outbreaks in Plants

2. Brief summary about Planned Program

RI AES research on integrated agro-ecosystem management promotes economically profitable and technologically progressive local agriculture that is 1) environmentally benign and 2) sensitive to the balance of scarce resources allocated among competing uses important to society. Rhode Island contains both agricultural production, predominantly of ornamental plants and sod, and extensive areas of managed urban and suburban landscapes. The sustainability of Rhode Island farms and managed landscapes is critical to the future of the our green industry. Our research efforts seek to identify turf grasses and ornamental plant taxa which can tolerate the environmental stresses present in the landscape, both natural and man made. As well we are selecting and breeding amenity plants for management with reduced inputs, and native grass populations suited for use in low traffic/minimally managed areas and roadsides. Our horticulture and integrated pest management (IPM) programs, for example, seek to minimize the need for pesticides through promotion of resistant plant varieties, biological controls, and cultural alternatives to pesticides. We are actively engaged in developing successful biocontrol strategies against major plant-pest complexes and invasive plants species. Toward this goal we maintain a USDA-approved plant pest quarantine and biocontrol facility. Similarly, through the URI Biotechnology Initiative, we seek to develop state-of-the-art strategies for plant improvement for a range of agricultural products. Approaches include modern genomic analysis for gene identification and functional characterization and transgenics for genetic modification and enhancement of a range of plant materials. Our research efforts frequently target the green industries of Rhode Island (turf grasses and ornamental horticulture) because of their relative importance to the local economy (wholesale nurseries and turf grass production accounts for two-thirds of Rhode Island's 11,000 acres in agricultural production), but also encompass other important agricultural crops appropriate to RI agriculture. These farms face a wide array of pest problems and significant pressure for land development. Technological and market innovations are essential for this industry to remain regionally and nationally competitive in the new economy.RI CE targets both green industry professionals, who develop and manage landscapes, and the gardening public (described in our Community and Gardening Program). We include them here because we are attempting to influence what is produced locally and how it is produced. While emphasizing ornamental horticulture, we also maintain a capability to respond to emerging problems in insect and disease management on the wide variety of crops grown in RI. We seek to better understand the market potential of products that result from identifiably more benign forms of agriculture.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
103	Management of Saline and Sodic Soils and Salinity	10%		10%	
202	Plant Genetic Resources	15%		15%	
204	Plant Product Quality and Utility (Preharvest)	15%		15%	
205	Plant Management Systems	15%		15%	
211	Insects, Mites, and Other Arthropods Affecting Plants	15%		15%	
212	Pathogens and Nematodes Affecting Plants	15%		15%	
215	Biological Control of Pests Affecting Plants	15%		15%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

For agriculture to remain competitive in a global economy much is required beyond the ability of the system to produce adequate materials at affordable prices. Agricultural products (food, feed, fiber, other desirable plant and animal goods) must be safe for use and environmentally benign in their production. Alternative and more efficient uses for agricultural products or by-products should be developed. Agricultural production systems must conserve soil, ground water, fossil fuels and other nonrenewable resources. Farming practices should cause minimal harm to the environment. As global agricultural systems strain to meet ever-greater human needs, they threaten planetary carrying capacities. Agriculture must change to less energy-and-material-dependent plants and animals, and to energy-conservative management practices. This conservation of resources must not significantly raise production costs, which would price US products out of the international market. In addition, our agricultural products must possess attributes that make them attractive to consumers in the global marketplace.

2. Scope of the Program

- Multistate Integrated Research and Extension
- Integrated Research and Extension
- In-State Research
- Multistate Research
- Multistate Extension
- In-State Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The green industry in Rhode Island faces a wide array of pest problems and significant pressure for land development. Technological and market innovations are essential for this industry to remain regionally and nationally competitive in the new economy. The capacity for RI AES and CE to significantly impact agriculture and public horticulture in Rhode Island is limited by availability of federal and state funds supporting research and outreach.

2. Ultimate goal(s) of this Program

RI AES research on integrated agro-ecosystem management promotes economically profitable and technologically progressive local agriculture that is 1) environmentally benign and 2) sensitive to the balance of scarce resources allocated among competing uses important to society.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	6.0	0.0	9.0	0.0
2010	6.0	0.0	9.0	0.0
2011	6.0	0.0	9.0	0.0
2012	6.0	0.0	9.0	0.0
2013	6.0	0.0	9.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Identify, select or breed species and cultivars of plants which are better adapted for use in the landscapes and environment of Rhode Island and the Northeastern US.
•Develop and deliver training for green industry professionals and gardeners emphasizing the use of plants that require less water, labor, nutrients, and pesticides.
•Expand markets for resource-conserving products.
•Reduce pest-induced damage to horticultural and forest plants, while maintaining environmental quality by minimizing the use of agrochemicals.
•Develop novel non-chemical methods of controlling invasive plant species.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Workshop • Group Discussion • Demonstrations • Education Class	• Newsletters • Web sites

3. Description of targeted audience

We have active partnerships with agricultural producers of turf grass and ornamental plants, administered by a joint advisory

committee of the Plant Sciences department, the RI Nursery and Landscape Association (RINLA) and the New England Sod Producers Association. We have research and demonstration projects on several nurseries and we work closely with RINLA to determine research needs and to design educational programs. We have similar working relations with the RI Golf Course Superintendents Association. We also target consumers through educational outreach programs designed to promote acceptance of local products.Producer and commodity groups: The Rhode Island Nursery and Landscape Association (RINLA) represents nurserymen, landscapers, tree farms and arborists. The Rhode Island Greenhouse Growers Association represents greenhouse growers and vegetable producers. The Rhode Island Fruit Growers Association represents orchards and small fruit growers. The RI Farm Bureau acts as an umbrella for RI agriculture with national links. Contacts are also maintained with regional commodity groups such as the New England Nursery Association and New England Floriculture, Inc. Given the size of the industry, there are numerous direct contacts between the Director, Station faculty and professionals (research and outreach) and industry representatives. RINLA has made major contributions to the University, including support for new hires, scholarships, and the development of a formal garden demonstrating sustainable plantings (see a virtual tour of this facility at riaes.cels.uri.edu/explore). The principle commodity groups representing turf grass production and management in Rhode Island are the Rhode Island Golf Course Superintendents Association (RIGCSA), the New England Sod Producers Association (NESPA), and the New England Regional Turfgrass Foundation (NERTF). We have strong working relationships with many of the individual golf course superintendents and sod producers throughout Rhode Island. Through our Winter School and Green Share programs, we provide annual educational and re- certification programs for growers, creating an excellent forum for exchange of information from this vital stakeholder group.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	500	20000	100	400
2010	500	20000	100	400
2011	500	20000	100	400
2012	500	20000	100	400
2013	500	20000	100	400

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 : 1 **2010 :** 0 **2011 :** 1 **2012 :** 0 **2013 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	5	8	13
2010	4	10	14
2011	5	6	11
2012	3	5	8
2013	5	10	15

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

  2009 : 3 **2010 :** 3 **2011 :** 3 **2012 :** 3 **2013 :** 3

- Books and monographs

  2009 : 0 **2010 :** 1 **2011 :** 0 **2012 :** 1 **2013 :** 0

- Abstracts

  2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 5 **2013 :** 0

- Conference proceedings

  2009 : 3 **2010 :** 3 **2011 :** 2 **2012 :** 4 **2013 :** 2

- Technical documents, fact sheets and bulletins

  2009 : 5 **2010 :** 8 **2011 :** 10 **2012 :** 5 **2013 :** 8

- Workshops

  2009 : 3 **2010 :** 3 **2011 :** 3 **2012 :** 3 **2013 :** 3

- Website development and refinement

  2009 : 3 **2010 :** 2 **2011 :** 3 **2012 :** 1 **2013 :** 3

- Public presentations

  2009 : 6 **2010 :** 6 **2011 :** 6 **2012 :** 6 **2013 :** 6

- Student training

  2009 : 9 **2010 :** 10 **2011 :** 10 **2012 :** 12 **2013 :** 12

- Development of tools and germplasm for use in breeding grasses and ornamental plants with traits important for the development of sustainable landscapes

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Release of biological control agents benefiting traditional agriculture, landscape horticulture and the environment of southern New England

  2009 : 1 **2010 :** 1 **2011 :** 1 **2012 :** 1 **2013 :** 1

- MS Theses and PhD Dissertations

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Professional training

  2009 : 2 **2010 :** 2 **2011 :** 2 **2012 :** 2 **2013 :** 2

- Professional/scientific presentations

2009 : 5 **2010 :** 5 **2011 :** 5 **2012 :** 5 **2013 :** 5

V(I). State Defined Outcome

O. No	Outcome Name
1	Identify and improve sustainable trees, shrubs, and grasses, with an emphasis on native species (#)
2	Increase availability and local production of sustainable ornamental trees and shrubs, and turf and roadside grasses (%)
3	Better understand the biology of plants and their pests, including the identification of gene functions for select traits on select crop species (# genes identified)
4	Develop and select superior and patentable ornamental plants (#)
5	Increase use of sustainable plants and IPM practices by CE-trained green industry professionals and the gardening public (%)
6	Reduce damage caused by pests through our biological control efforts, or through environmentally sensitive pesticide applications influenced by our IPM and pesticide applicator-training programs (% reduction)
7	Reduce needs for water, nutrients, or labor for select ornamental plants and grasses (%)
8	Improve landscape quality in high-stress areas through improved management practices and development of stress-tolerant plants (% adoption of BMP)
9	Increase profit from production, resulting from more efficient marketing and reduced production costs as well as alternative uses for agricultural crops (%)

Outcome #1

1. Outcome Target

Identify and improve sustainable trees, shrubs, and grasses, with an emphasis on native species (#)

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :2 **2010 :** 2 **2011 :** 2 **2012 :**2 **2013 :** 2

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

Outcome #2

1. Outcome Target

Increase availability and local production of sustainable ornamental trees and shrubs, and turf and roadside grasses (%)

2. Outcome Type : Change in Action Outcome Measure

2009 :2 **2010 :** 2 **2011 :** 2 **2012 :**2 **2013 :** 2

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

Outcome #3

1. Outcome Target

Better understand the biology of plants and their pests, including the identification of gene functions for select traits on select crop species (# genes identified)

2. Outcome Type : Change in Action Outcome Measure

2009 :2 **2010 :** 2 **2011 :** 2 **2012 :**2 **2013 :** 2

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)

- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

Outcome #4

1. Outcome Target

Develop and select superior and patentable ornamental plants (#)

2. Outcome Type : Change in Action Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

Outcome #5

1. Outcome Target

Increase use of sustainable plants and IPM practices by CE-trained green industry professionals and the gardening public (%)

2. Outcome Type : Change in Condition Outcome Measure

2009 : 2	**2010 :** 2	**2011 :** 2	**2012 :** 2	**2013 :** 2

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

Outcome #6

1. Outcome Target

Reduce damage caused by pests through our biological control efforts, or through environmentally sensitive pesticide applications influenced by our IPM and pesticide applicator-training programs (% reduction)

2. Outcome Type : Change in Condition Outcome Measure

2009 : 2	**2010 :** 2	**2011 :** 2	**2012 :** 2	**2013 :** 2

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

Outcome #7

1. Outcome Target

Reduce needs for water, nutrients, or labor for select ornamental plants and grasses (%)

2. Outcome Type : Change in Condition Outcome Measure

2009 : 3	**2010 :** 3	**2011 :** 3	**2012 :** 3	**2013 :** 3

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

Outcome #8

1. Outcome Target

Improve landscape quality in high-stress areas through improved management practices and development of stress-tolerant plants (% adoption of BMP)

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
10	10	10	10	10

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

Outcome #9

1. Outcome Target

Increase profit from production, resulting from more efficient marketing and reduced production costs as well as alternative uses for agricultural crops (%)

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
20	20	20	20	20

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Competing Programatic Challenges
- Natural Disasters (drought,weather extremes,etc.)
- Public Policy changes
- Competing Public priorities
- Economy
- Appropriations changes

Description

The Rhode Island agricultural economy is as strong as it has been in recent years. Industry support for our work is greated than ever. Key limiting factors include changes in AES and CE priorities and federal, state and university funding of faculty, staff and facilities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Description

Periodic surveys are conducted on stakeholder needs and AES/CE impacts. All workshops make use of pre- and post-survey instruments. Input is sought from commodity groups through advisory councils and personal contacts.

2. Data Collection Methods

- Whole population
- On-Site
- Structured
- Unstructured
- Mail
- Observation

Description

Survey instruments are applied to the whole industry through commodity groups, and on an individual basis during workshops and one-on-one contacts.

V(A). Planned Program (Summary)

Program #13

1. Name of the Planned Program

Natural and Environmental Resource Economics, Markets and Policy

2. Brief summary about Planned Program

An understanding of the economics of natural and envronmental resources is key to effective management. RIAES expects to continue its work in this area with a thrust toward management of fisheries and aquaculture resources.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : No

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
605	Natural Resource and Environmental Economics	25%		25%	
606	International Trade and Development	25%		25%	
609	Economic Theory and Methods	25%		25%	
610	Domestic Policy Analysis	25%		25%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Effective management of our fisheries resources is critical to maintaining the health of our oceans and sustaining our recreational and commercial fishing communities. However, the current system of overlapping federal, state and local bureaucracies is not producing effective policies. In the absence of management reform, many of our fisheries may enter ecological and economic crises. At present, there is little agreement on whether and how to reform fisheries governance institutions.

Further, there exist alternative marketing approaches and approaches to negative publicity regarding seafood. Development of develop marketing strategies that maximize the value of seafood products will benefit both the consumer and the producer.

2. Scope of the Program

- In-State Research
- Multistate Research

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The efficient management of marine resources relies on developing policies that synthesize the biological structure of the resource with the decision heuristics employed by harvesting agents.

At present, there is little agreement on whether and how to reform fisheries governance institutions. We believe that the lack of agreement and lack of substantive ideas for reforming our fishery management institutions are rooted in the lack of understanding of how fishery management policies are produced.

Developing decision support tools to integrate management and marketing and increase the efficiency of fishery governance by developing ideas and knowledge will support transition to market-based fishery management.

2. Ultimate goal(s) of this Program

First, we propose to develop a comprehensive model of fisheries policy making and to subject selected hypotheses to extensive testing thus resulting in a new political-economic tool that will provide techniques for improving the design of fishery management institutions.

Second we hope to expand and develop seafood markets by developing new marketing ideas, identifying market niches, and developing alternative seafood products.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	0.0	0.0	2.0	0.0
2010	0.0	0.0	2.0	0.0
2011	0.0	0.0	2.0	0.0
2012	0.0	0.0	2.0	0.0
2013	0.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

•Evaluate the impacts of ecolabeling on consumer demand for frozen seafood.
•Determine the impacts of consumer concerns of PCB contamination of farmed salmon on US import demand for farmed salmon.
•Evaluate the impact of farmed shrimp on the US market and how shrimp aquaculture is changing prices.
•Investigate the impact of homogeneous resource modeling in a heterogeneous fishery by synthesizing a stochastic production frontier model with the estimation classification algorithm.
•Model spatial decisions of fishermen in the Northeast Atlantic herring fleet.
•Run experiments using the game theoretic model.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Workshop • Education Class • Group Discussion	• Newsletters • Web sites

3. Description of targeted audience

The target audience includes fishers, environmental economists, and policy makers.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	25	500	0	0
2010	25	500	0	0
2011	25	500	0	0
2012	25	500	0	0
2013	25	500	0	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Peer reviewed publications

2009 :4 **2010 :**4 **2011 :** 4 **2012 :**4 **2013 :**4

- Books and monographs

2009 : 0 **2010** : 1 **2011** : 0 **2012** : 1 **2013** : 1

- Abstracts

2009 : 5 **2010** : 5 **2011** : 5 **2012** : 5 **2013** : 5

- Conference proceedings

2009 : 2 **2010** : 2 **2011** : 2 **2012** : 2 **2013** : 2

- M.S. theses and Ph.D. dissertations

2009 : 3 **2010** : 3 **2011** : 3 **2012** : 3 **2013** : 3

- Professional/scientific presentations

2009 : 5 **2010** : 5 **2011** : 5 **2012** : 5 **2013** : 5

- Student training

2009 : 5 **2010** : 5 **2011** : 5 **2012** : 5 **2013** : 5

V(I). State Defined Outcome

O. No	Outcome Name
1	M.S. and Ph. D. degree conferrals (#)
2	Estimate the spatial decision process of fisherman within the herring industry.
3	Expand seafood markets by development of new marketing ideas.
4	Identification of market niches for seafood
5	Development of decision tools to integrate management and marketing of seafood.
6	Development of alternative seafood products.

Outcome #1

1. Outcome Target

M.S. and Ph. D. degree conferrals (#)

2. Outcome Type : Change in Knowledge Outcome Measure

2009 : 3	**2010 :** 3	**2011 :** 3	**2012 :** 3	**2013 :** 3

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

Outcome #2

1. Outcome Target

Estimate the spatial decision process of fisherman within the herring industry.

2. Outcome Type : Change in Action Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

Outcome #3

1. Outcome Target

Expand seafood markets by development of new marketing ideas.

2. Outcome Type : Change in Action Outcome Measure

2009 : 1	**2010 :** 1	**2011 :** 1	**2012 :** 1	**2013 :** 1

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

Outcome #4

1. Outcome Target

Identification of market niches for seafood

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

Outcome #5

1. Outcome Target

Development of decision tools to integrate management and marketing of seafood.

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

Outcome #6

1. Outcome Target

Development of alternative seafood products.

2. Outcome Type : Change in Action Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 605 - Natural Resource and Environmental Economics
- 606 - International Trade and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Populations changes (immigration,new cultural groupings,etc.)

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)
- Case Study
- Before-After (before and after program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail
- Structured
- Case Study
- Whole population
- Telephone
- Observation
- Unstructured
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #14

1. Name of the Planned Program

CELS CARES

2. Brief summary about Planned Program

CELS CARES (College of the Environment and Life Sciences Community Access to Research and Extension Services) is a program that enables the academic community to respond to community needs. As the acronym indicates, the program provides a means for stakeholders to access the experiment station and extension. The program also fosters integration and development of infrastructure critical to the Station's research mission and Extension's outreach endeavors .

3. Program existence : New (One year or less)

4. Program duration : Medium Term (One to five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
902	Administration of Projects and Programs	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The experiment station and extension require a systematic process to respond the needs, problems and challenges of key stakeholders. This program provides the administrative support to respond to need and provide resources in key areas through both competitive and non-competitive processes.

2. Scope of the Program

- Multistate Extension
- In-State Research
- In-State Extension
- Multistate Research
- Multistate Integrated Research and Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Formula funding for the experiment station and extension will continue. Integration of station and extension activities is valued. Multi-state activities are valued.

2. Ultimate goal(s) of this Program

Provide a means for stakeholders to access the experiment station and extension.
Provide the administrative support to respond to need and provide resources in key areas through both competitive and

non-competitive processes.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2009	2.0	0.0	2.0	0.0
2010	2.0	0.0	2.0	0.0
2011	2.0	0.0	2.0	0.0
2012	2.0	0.0	2.0	0.0
2013	2.0	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The experiment station and extension developed a request for application (RFA) process that encouraged innovative, integrated proposals that meet the needs of state stakeholders. Proposals are then evaluated by internal university teams and external peers. Infrastructure needs are also addressed by this program.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Other 1 (email blast) • Workshop • Group Discussion • One-on-One Intervention	• Newsletters • Web sites

3. Description of targeted audience

Academic faculty, university staff, graduate students, undergraduate students, university administrators

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2009	1000	1000	0	0
2010	1000	1000	0	0
2011	1000	1000	0	0
2012	1000	1000	0	0
2013	1000	1000	0	0

2. (Standard Research Target) Number of Patent Applications Submitted

Expected Patent Applications

2009 :0 **2010 :**0 **2011 :** 0 **2012 :**0 **2013 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	0	0	0
2013	0	0	0

V(H). State Defined Outputs

1. Output Target

- Proposal submissions

  2009 :20 **2010 :**20 **2011 :** 20 **2012 :**20 **2013 :**0

- Proposals funded

  2009 :10 **2010 :**10 **2011 :** 10 **2012 :**10 **2013 :**0

- Requests submitted

  2009 :10 **2010 :**10 **2011 :** 10 **2012 :**10 **2013 :**0

- Requests funded

  2009 :5 **2010 :**5 **2011 :** 5 **2012 :**5 **2013 :**0

V(I). State Defined Outcome

O. No	Outcome Name
1	New knowledge generated
2	Research and extension infrastructure built and adequately supported
3	Number of integrated research and extension projects increase
4	Cultures of research and extension merge

Outcome #1

1. Outcome Target

New knowledge generated

2. Outcome Type : Change in Knowledge Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

Outcome #2

1. Outcome Target

Research and extension infrastructure built and adequately supported

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
1	1	1	1	1

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

Outcome #3

1. Outcome Target

Number of integrated research and extension projects increase

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
0	0	0	0	0

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

Outcome #4

1. Outcome Target

Cultures of research and extension merge

2. Outcome Type : Change in Condition Outcome Measure

2009 :	2010 :	2011 :	2012 :	2013 :
0	0	0	0	0

3. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

4. Associated Knowledge Area(s)

- 902 - Administration of Projects and Programs

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Public Policy changes
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Natural Disasters (drought,weather extremes,etc.)
- Appropriations changes
- Competing Public priorities
- Government Regulations

Description

Of the external factors thjat could most adversely affect this program, funding is the most important.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- After Only (post program)
- Retrospective (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Portfolio Reviews
- Observation
- Unstructured

Description

{NO DATA ENTERED}